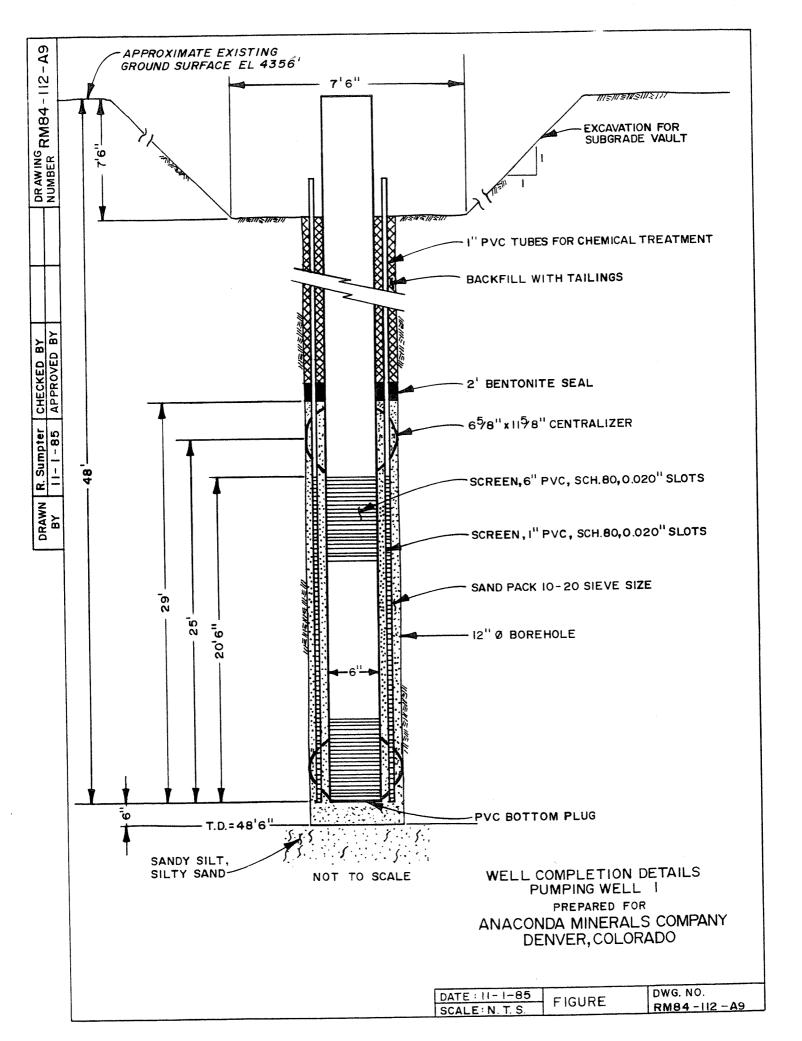
Appendix B Borehole Logs and Well Installation Diagrams (Compact Disc)



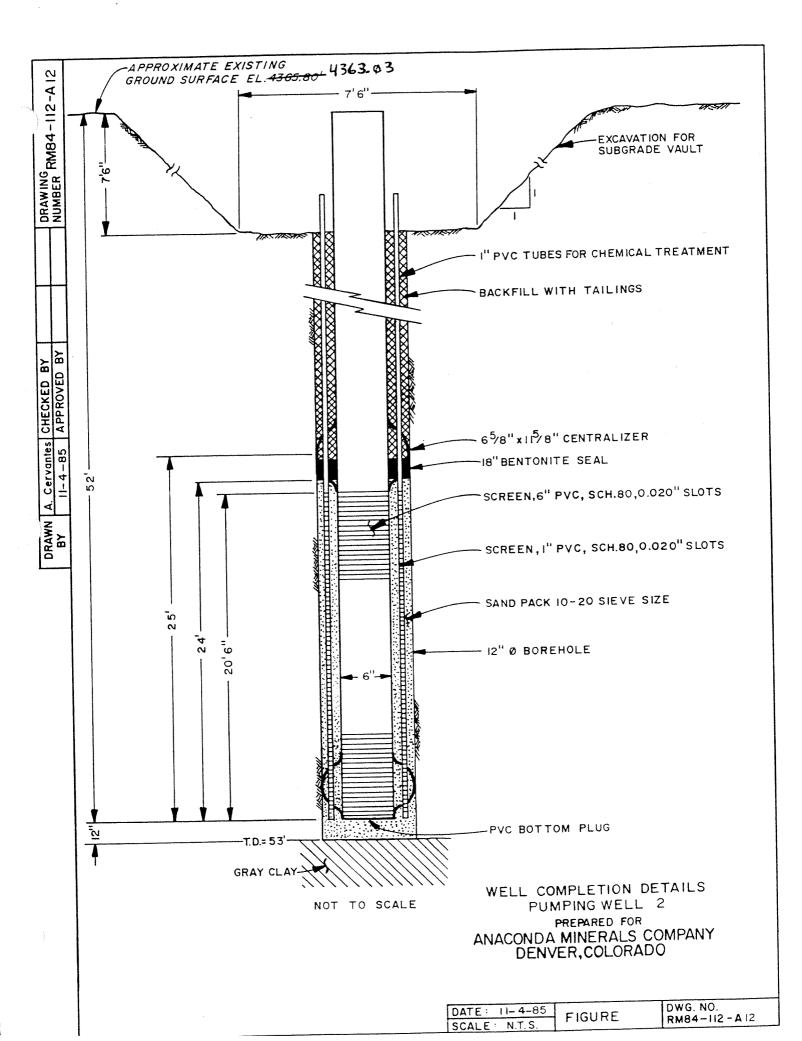
Application #14112 Well #2 1 WELL LOG AND REPORT TO THE SATE ENGINEER OF NEVADA

ـــــــــــــــــــــــــــــــــــــ	
Rec. May. 26	
_	
Well No	19109

	\	JOW		Do not fill in
	1		ning Company Driller Mel	· · · · ·
			Nevada Address/20	
			Sec.21, T.13.N/S, R.25.E, inLyon	
			5'E. of the West Commorn Corner of	
			MINING (DRHINING MINE TOTAL d	
Size of dr	illed hole	14	Weight of casing p	per linear foot 32.7 —
			— 3/16 Temp. of water	
Diameter a	ınd length of	f casing	$\frac{9''0}{12''}$ in diameter and under give inside diameter	6
If flowing	well give flo	w in c.f.s. or	g.p.m. and pressure	
f nonflow	ing well giv	e depth of s	tanding water from surface 70	
			rks(Type and size	
			Z-16-52— Date of completion	a of well
'ype of we	:ll rig	k	ABLE TOOLS	
			OF FORMATIONS	Water-bearing Formation, Car
From feet	To feet	Thickness feet	Type of material	Perforations, Etc.
0	55	55'	OUPR BURGON	Chief aquifer (water-bearing
55	65	10	FINIRSPACE & Count	formation) from 75 - to 314'
16	95	10	BORR EURDINJ	from tok.s
65	1 / 2	10		Other continue
75	85	10	BAD CAVE HEAVING SAND	Other aquifers
75				•
75 85	85 95	10	BAD CAVE HEAVING SAND J GEAVELL SAND GRAVELL SAND CRAVEL	•
75 85	85 95	10	BAD CAVE HEAVING SAND J GEAVELL SAND GRAVELL SAND CRAVEL	
75 85	85 95	10	BAD CAVE HEAVING SAND J GEAVELL SAND GRAVELL SAND CRAVEL	•
75 85	85 95	10	BAD CAVE HEAVING SAND J GEAVELL SAND GRAVELL SAND CRAVEL	First water at 20 fee
75 85 75 17 3 8	85 95 107 113 128 136 144	10 12 6 15 8 8	BAD CAVE HEAVING SAMD J GRAVELL SAND GRAVEL DECOMPSED ROCK ROCK ROCK	First water at I fee
75 85 75 17 3 8	85 95 107 113 128 136 144	10 12 6 15 8 8	BAD CAVE HEAVING SAMD J GRAVELL SAND GRAVEL DECOMPSED ROCK ROCK ROCK	First water at 20 fee
75 85 75 17 3 8	85 95 107 113 128 136 144	10 12 6 15 8 8	BAD CAVE HEAVING SAND J GEAVELL SAND GRAVELL SAND CRAVEL	First water at I fee

(OVER)

From feet	To feet	Thickness	A A A A A A A A A A A A A A A A A A A	The second of th	Type of material
			,		,
				CASING	G RECORD
Diam. casing	From feet	To feet	Length		"Remarks"—Seals, Grouting, Etc.
14"	0	180	180	14"10	CASING WITH DRIVE SHOR
12	0	286	786	12'10	- NO DRIVESTICE
			AUC M. V. U. A. P.		_
		- }			Pumping Test, Quality of Water, Etc.
10	est Ta	MPad	41	MGFM.	w.TH 9.7. DD.
Ţ	imp_	CAN.	Terref	- 100	O GFM. BUT BIST AT 750. D
			-		
	WELL DR	ILLERS STA	ATEMENT		(Not to be filled in by Driller)
This we	ll was drill	led under m	y jurisdicti	ion and the	///////////////////////////////////////
		ie to pry best	AG.		
;	Signed	Well I	riker	1 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
1	Ву	1/2 / M	1x15		
		License	No. 3		
ated	5-17-	ر يے کے ا	9	_ GFFICE	
			5	TATE ENGINE	
			e de la companya de l	MAY 2915	2
				RECEIVED	3
			0		



WELL LOG AND REPORT TO THE STATE ENGINEER OF NEVADA



Log No. 2424

Rec. Dec. 4. 1953

Well No. 2410

		ENGI	VEEK OF I	IE V ADA	`\	Permit No. 11/2
	•		· · · · · · · · · · · · · · · · · · ·	Lucil O		Do not fill in
OwnerA	naconda	Well # Conner.	2 AKA P	D	rillerLukins	Bros
		- -				ngton, Nev. Lic. No. 97
Location o	f well: 🤽	414 NE 1/4	Sec.21., T/2.N,	<i>1</i> 8, R <i>25</i> °E, in	Lyons	County
or			989uud 9799uur urau P88suudaa1988soon	***************************************	**************************************	
Water will	be used for	[a.a	Mill	, 40 274- 22- <u>26888</u> 28-27-74-74-74	Total depti	of well321Ft
Size of dr	illed hole	14#	***************************************	Wei	ght of casing per	linear foot
Thickness	of casing	4	H	Tem	p. of water	***************************************
Diameter a	nd length o	f casing (Casing	14" Dia.	LOFt. Le	nachta naide diameter; ca	320 T. using 12" in diameter give outside diameter.)
If flowing	well give flo	ow in c.f.s. or	g.p.m. and pressur	· [6		
If nonflow	ing well giv	e depth of s	tanding water from	ı surface	••••••	34Ft.
If flowing	well describ	e control wo	rks		Memo and size of a	alve, etc.)
		Oot	t 254 50	•	Type and size of v	atve, etc.)
					of completion of	well Nov. 6th. 1952
Type of we	ell rig		Ca			***************************************
		LOG	OF FORMATIONS			Water-bearing Formation, Casing
From feet	To feet	Thickness feet	7	Type of material	1	Perforations, Etc.
0	34		Top Soil			Chief aquifer (water-bearing
34	42		Gravel lst.	Water B	earing ·	formation) from75 to320
42	75		Cement Grav	rel		Other aquifers
75	32 0		Water Beari	ng Grani	te Diwrigh	-
	,		,	•		
				٠.		
						-041-09-01-19-0-19-0-19-0-19-0-19-0-19-0
						First water at34feet
						Casing perforated 34 318
			_			fromt
						Size of perforations Chisel Slot 1/8
			,			

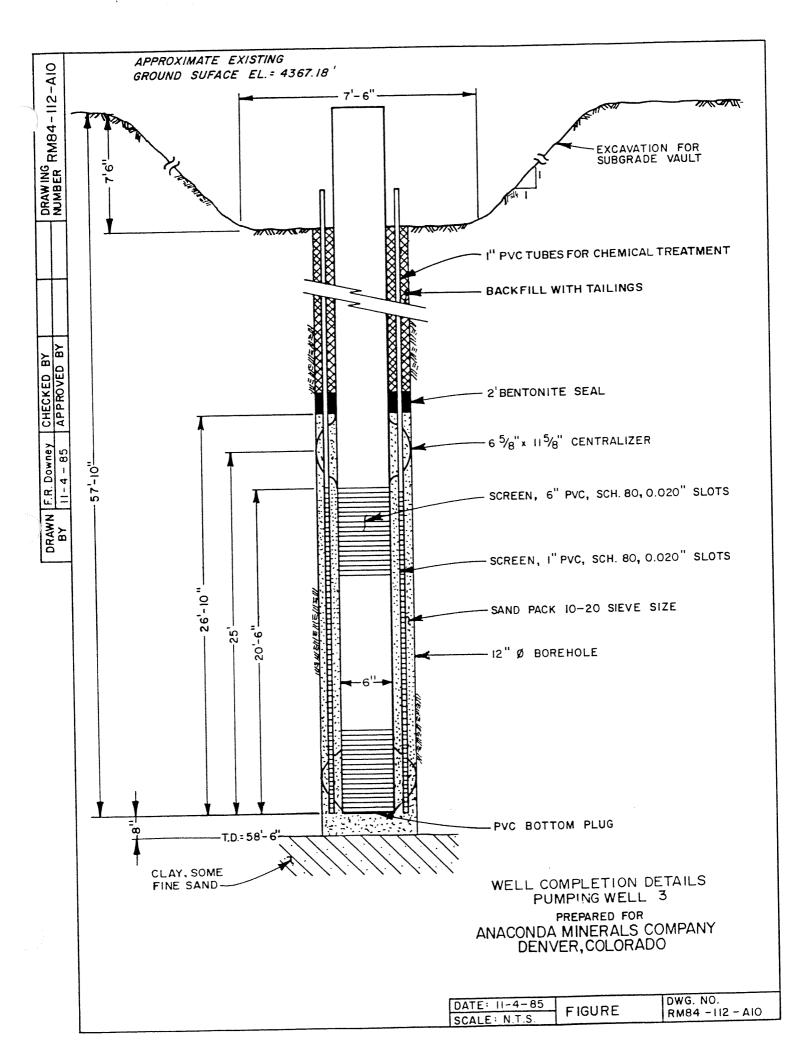
(OVEB)

Well #2 AKA PWell 2

LOG OF FORMATIONS-Continued

From feet	To feet	Thickness	*	Type of material
			No. Section 1985	
				•
,				
		,		
**************************************	<u> </u>			ASING BECORD
Diam.	From	To		
casing	feet	feet	Length	"Remarks"—Seals, Grouting, Etc.
			700.54	Sealed in Granite
14"	0	320	320ft.	peared in grantee
				•

		GEI	NERAL INFORMATIO	ON—Pumping Test, Quality of Water, Etc.
-				
	/ // // // // // // // // // // // // /			
	· · · · · · · · · · · · · · · · · · ·	6 5	8 Per. Min.	
`		·		
	WELL DE	RILLERS ST	ATEMENT	(Not to be filled in by Driller)
This w	all was deil	llad under n	ny jurisdiction and	
				·
above infor	mation is tr	ue to my best	information and bel	iei,
	Signed	Lukins r	Bros	
•	Partne	r		
	By	elviny	dellen	***************************************
		Licens	e No97	145 (24044-14 4441) A 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
Dated	Dec. 1	L3th,1	INFO DEE	100
	I ann an agh 18 18 1 1 1 1 1		STATE	NGINEER
			INEC :	451
			RECE	N/E D
			AND.	* Y () }



WELL LOG AND REPORT TO THE STATE ENGINEER OF NEVADA



Log No. 2423	
Rec. Dec.4	
Well No	
Permit No. 14/11	

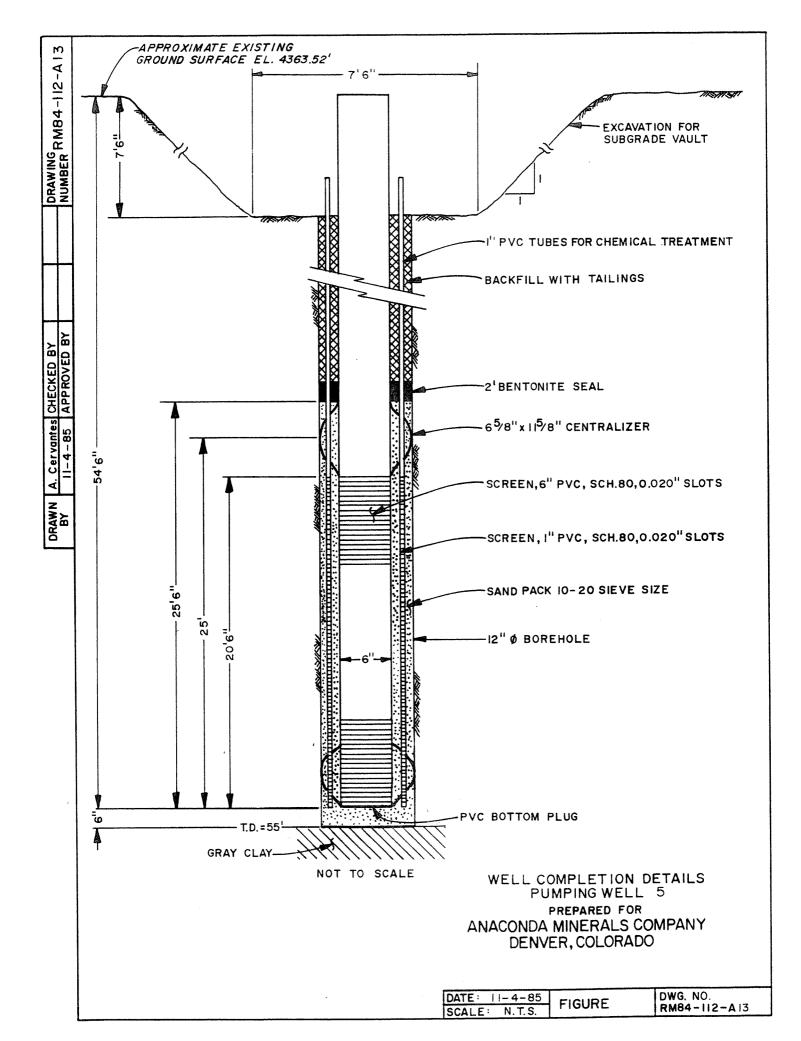
	We	ell No.	3 AKA PWell3		Do not fill in
OwnerAn	aconda.	Copper	Company	DrillerLukin	s Bros
Address	Yering	ton Nev	ada	Address. Y	erington, Nev. Lic. No. 97
Location of	well: AB	1.14.NE.14	5 00.2/_, T <i>./3</i> _N/ 8 , R <i>.20</i> ⁻ E,	in	Lyons County
or		***************************************			, \$41.0420.000-#8664100000000000000000000000000000000000
Water will	be used for	М±	<u> </u>	Total dep	th of well 280 Ft.
Size of dril	led hole		14" W	eight of casing per	linear foot
Thickness o	f casing		. s	emp. of water	
Diameter an	ıd length of	casing (Casing	14" Dia. 240 Ft	inside diameter; (easing 12" in diameter give outside diameter.)
If flowing w	rell give flo	w in c.f.s. or	g.p.m. and pressure		·hh-d
		•	-	20. 00	
If flowing w	rell describe	control wo	rks	(Type and size of	valve, etc.)
Date of com	ımen cement	of well.Ma	y 28th. 52 Da	ate of completion o	f well Aug. 29th. 52
Type of wel	l rig		Cable Tool		***************************************
		LOG	OF FORMATIONS		Water-bearing Formation, Casing
From feet	To feet	Thickness feet	Type of mater	rial	Perforations, Etc.
0	40		Broken Granite Dir	ig ht	. Chief aquifer (water-bearing
4 0	180		Granite Dirght		formation) from 40 to 240 ft
180	240	į	Granite Dirght		Other aquifers
					4827-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1

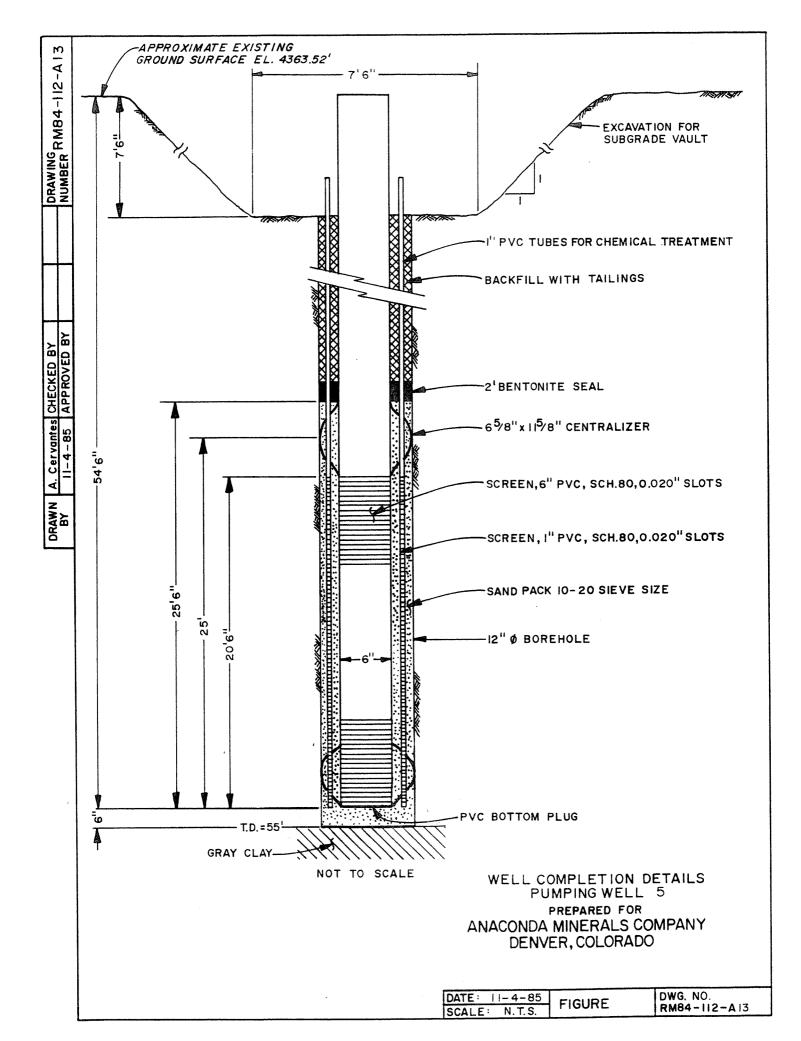
					First water at 40 feet.
					Casing perforated
					from45 to240ft.
					Size of perforations
					1/8" Chisel Slot
					•

Well No. 3 AKA PWELL 3

LOG OF FORMATIONS-Continued

From feet	To feet	Thickness		•		T;	ype of material
i	!		1				
			***				•
							3
							•
	-						
		-					
							· ·
				CASI	ng re	CORD	
Diam. casing	From feet	To feet	Length		٠	"Rei	marks"—Seals, Grouting, Etc.
14 #	0	240	Ft. 10	Joints	240	Ft.	Sealed in Granite
	•						•
		GE	TERAL INF	ORMATION-	-Pumpii	ı g T est, Q	quality of Water, Etc.
		600 (Jal. pe	r. Min.			
-							
				1			
						•	
	WELL DE	RILLERS ST	ATEMENT				(Not to be filled in by Driller)
This we	ll was dril	lled under n	ay jurisdict	ion and the			/#************************************
above inform	mation is tr	ue to my best	informatio	n and belief.			
	Signed	Lukins ! tner ^{Well}	Bros	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			480 48 - 47
				/ -		/*************************************	***************************************
	By	Lean		•	ı	************	***************************************
		Licens	e No	97		***********	
DatedSe	ept. 30	th.	19.52	PICE	7		
		·				***********	***************************************
			 175	n=457		************	***************************************
			IRC	CEIVEU		************	######################################
			6 W. F.	A to A the Kindle of the Party of		.24560000000000	





PROJECT: YERINGTON PUMPBACK

DRILLING CO: ANDRESEN EXPLORATION

DRILLER: RANDY BARR

CLIENT: M. FLICKINGER-A.E.R.L.

GEOLOGIST/SUPERVISOR: N. HATFIELD

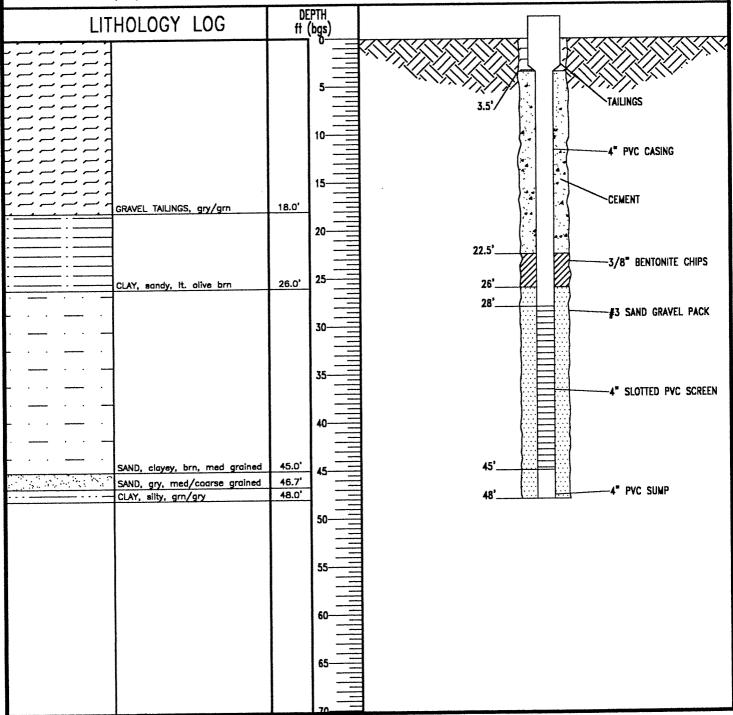
AHA JOB#: 55-05

DRILLING METHOD: HOLLOW STEM AUGER

BORING STARTED: 10/21/98

WELL TYPE: PUMPING WELL
WELLHEAD TYPE: STICK-UP
WELL COMPLETED: 10/21/98
WELL DEVELOPED: 10/26/98
DATE SURVEYED: 12/4/98
SCREEN SLOT SIZE: 0.02"
SCREEN TYPE: SCH 40 PVC
FILTER PACK: #3 SAND

CASING DIAMETER: 4", 6" AT SURFACE
CASING MATERIAL: SCH 40 PVC
BORING DIAMETER: 12"
TOP OF CASING ELEV. (FT): 4367.09
GROUND ELEVATION (FT): 4366.59
LOCATION: NORTH BERM
NORTHING (FT): 45195.65
EASTING (FT): 28904.15

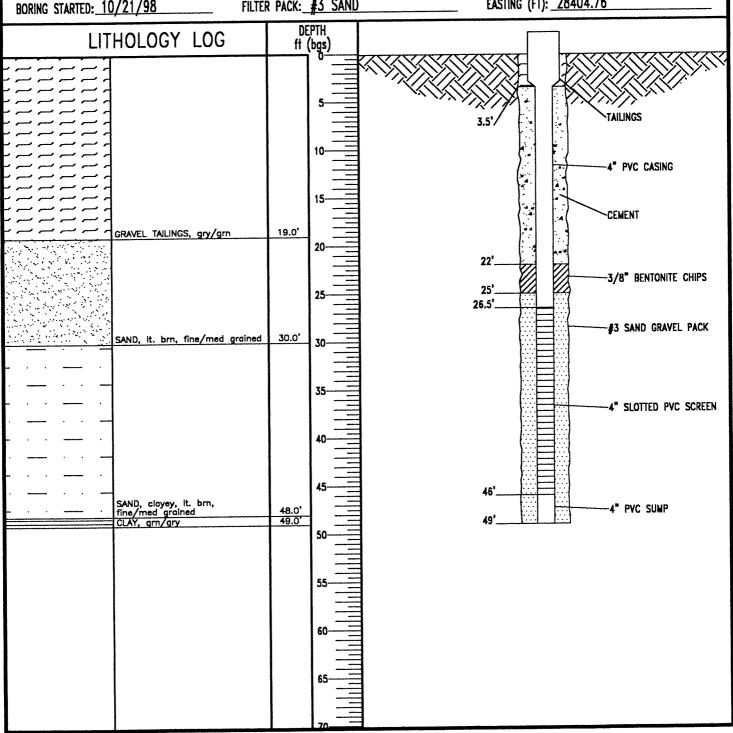




PROJECT: YERINGTON PUMPBACK
DRILLING CO: ANDRESEN EXPLORATION
DRILLER: RANDY BARR
CLIENT: M. FLICKINGER-A.E.R.L.
GEOLOGIST/SUPERVISOR: N. HATFIELD
AHA JOB#: <u>55-05</u>
DRILLING METHOD: HOLLOW STEM AUGER
10/01/00

WELL TYPE: PUMPING WELL	
WELLHEAD TYPE: STICK-UP	
WELL COMPLETED: 10/22/98	
WELL DEVELOPED: 10/26/98	
DATE SURVEYED: 12/4/98	
SCREEN SLOT SIZE: 0.02"	
SCREEN TYPE: SCH 40 PVC	
FILTER PACK: #3 SAND	

CASING DIAMETER: 4", 6" AT SURFACE
CASING MATERIAL: SCH 40 PVC
BORING DIAMETER: 12"
TOP OF CASING ELEV. (FT): 4364.86
GROUND ELEVATION (FT): 4364.36
LOCATION: NORTH BERM
NORTHING (FT): 45198.72
EASTING (FT): 28404.76





PROJECT: YERINGTON PUMPBACK

DRILLING CO: ANDRESEN EXPLORATION

DRILLER: RANDY BARR

CLIENT: M. FLICKINGER-A.E.R.L.

GEOLOGIST/SUPERVISOR: N. HATFIELD

AHA JOB#: 55-05

DRILLING METHOD: HOLLOW STEM AUGER

BORING STARTED: 10/22/98

WELL TYPE: PUMPING WELL

WELLHEAD TYPE: STICK-UP

WELL COMPLETED: 10/22/98

WELL DEVELOPED: 10/26/98

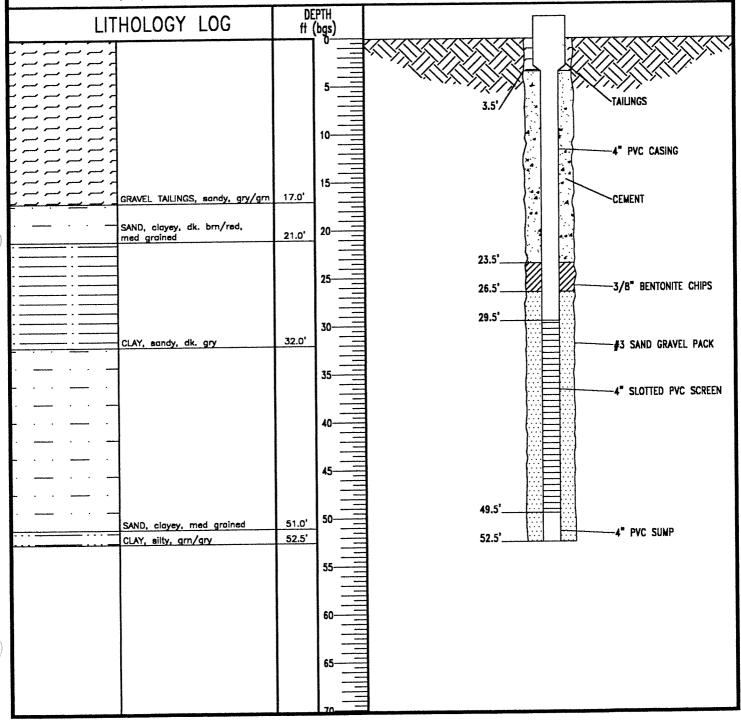
DATE SURVEYED: 12/4/98

SCREEN SLOT SIZE: 0.02°

SCREEN TYPE: SCH 40 PVC

FILTER PACK: #3 SAND

CASING DIAMETER: 4", 6" AT SURFACE
CASING MATERIAL: SCH 40 PVC
BORING DIAMETER: 12"
TOP OF CASING ELEV. (FT): 4365.4
GROUND ELEVATION (FT): 4364.9
LOCATION: NORTH BERM
NORTHING (FT): 45139.48
EASTING (FT): 27904.35

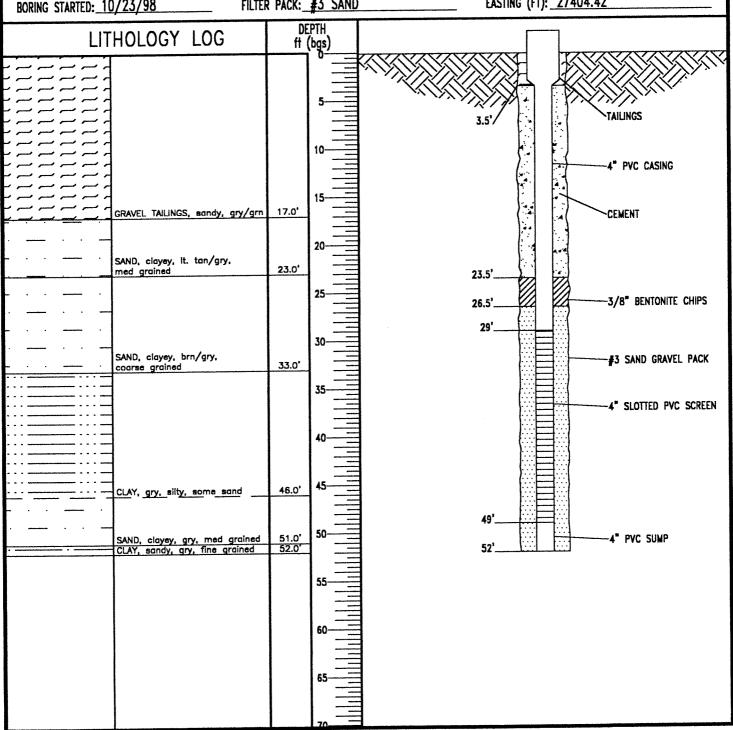




PROJECT: YERINGTON PUMPBACK
DRILLING CO: ANDRESEN EXPLORATION
DRILLER: RANDY BARR
CLIENT: M. FLICKINGER-A.E.R.L.
GEOLOGIST/SUPERVISOR: N. HATFIELD
AHA JOB#: 55-05
DRILLING METHOD: HOLLOW STEM AUGER
200W0 07407ED 10/27/09

WELL TYPE: PUMPING WELL
WELLHEAD TYPE: STICK-UP
WELL COMPLETED: 10/23/98
WELL DEVELOPED: 10/26/98
DATE SURVEYED: 12/4/98
SCREEN SLOT SIZE: 0.02"
SCREEN TYPE: SCH 40 PVC
FILTER PACK: #3 SAND

CASING DIAMETER: 4", 6" AT SURFACE
CASING MATERIAL: SCH 40 PVC
BORING DIAMETER: 12"
TOP OF CASING ELEV. (FT): 4365.6
GROUND ELEVATION (FT): 4365.1
LOCATION: NORTH BERM
NORTHING (FT): 45187.86
EASTING (FT): 27404.42



PROJECT: YERINGTON PUMPBACK

DRILLING CO: ANDRESEN EXPLORATION

DRILLER: RANDY BARR

CLIENT: M. FLICKINGER-A.E.R.L.

GEOLOGIST/SUPERVISOR: N. HATFIELD

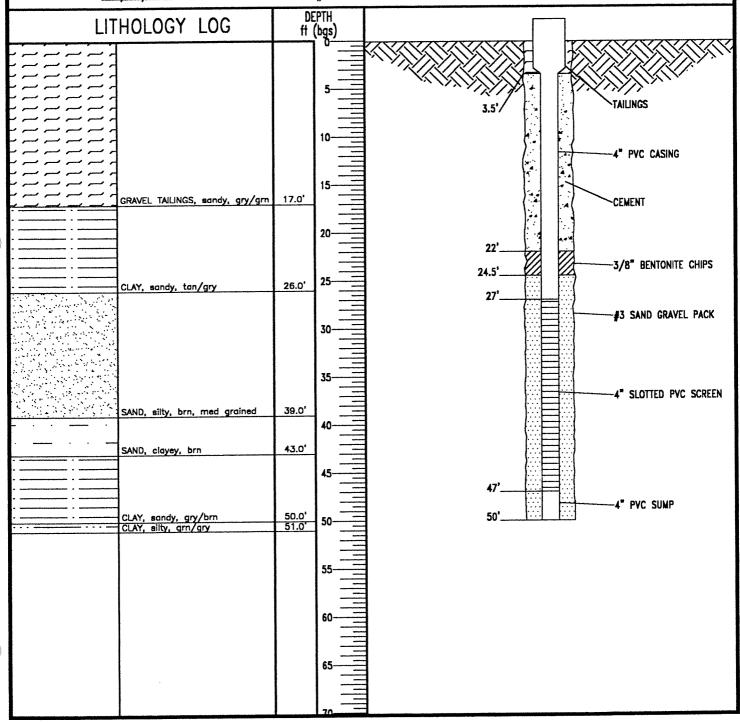
AHA JOB#: 55-05

DRILLING METHOD: HOLLOW STEM AUGER

BORING STARTED: 10/23/98

WELL TYPE: PUMPING WELL
WELLHEAD TYPE: STICK-UP
WELL COMPLETED: 10/23/98
WELL DEVELOPED: 10/26/98
DATE SURVEYED: 12/4/98
SCREEN SLOT SIZE: 0.02"
SCREEN TYPE: SCH 40 PVC
FILTER PACK: #3 SAND

CASING DIAMETER: 4", 6" AT SURFACE
CASING MATERIAL: SCH 40 PVC
BORING DIAMETER: 12"
TOP OF CASING ELEV. (FT): 4364.77
GROUND ELEVATION (FT): 4364.27
LOCATION: NORTH BERM
NORTHING (FT): 45188.14
EASTING (FT): 26903.84





PROJECT: YERINGTON PUMPBACK

DRILLING CO: ANDRESEN EXPLORATION

DRILLER: RANDY BARR

CLIENT: M. FLICKINGER-A.E.R.L.

GEOLOGIST/SUPERVISOR: N. HATFIELD

AHA JOB#: 55-05

DRILLING METHOD: HOLLOW STEM AUGER

BORING STARTED: 10/23/98

WELL TYPE: PUMPING WELL

WELLHEAD TYPE: STICK-UP

WELL COMPLETED: 10/24/98

WELL DEVELOPED: 10/26/98

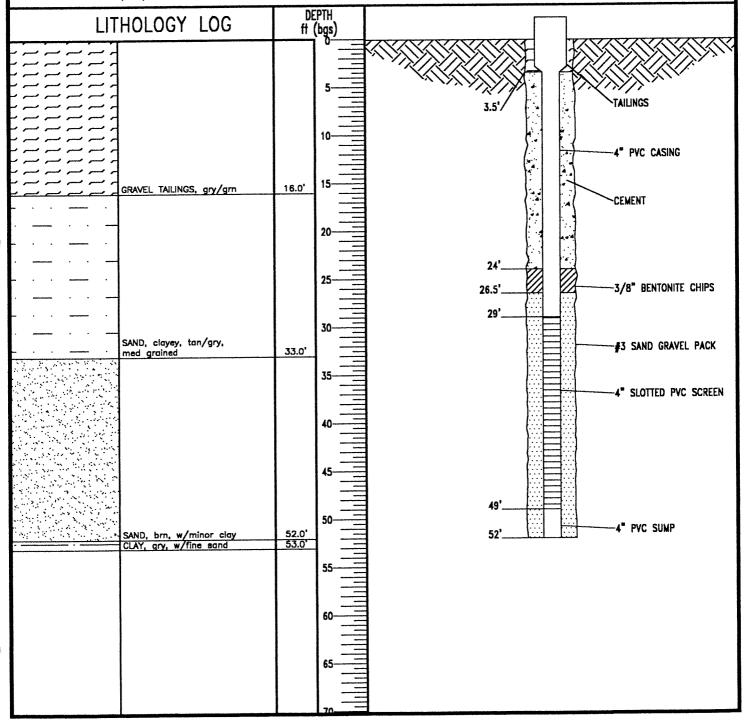
DATE SURVEYED: 12/4/98

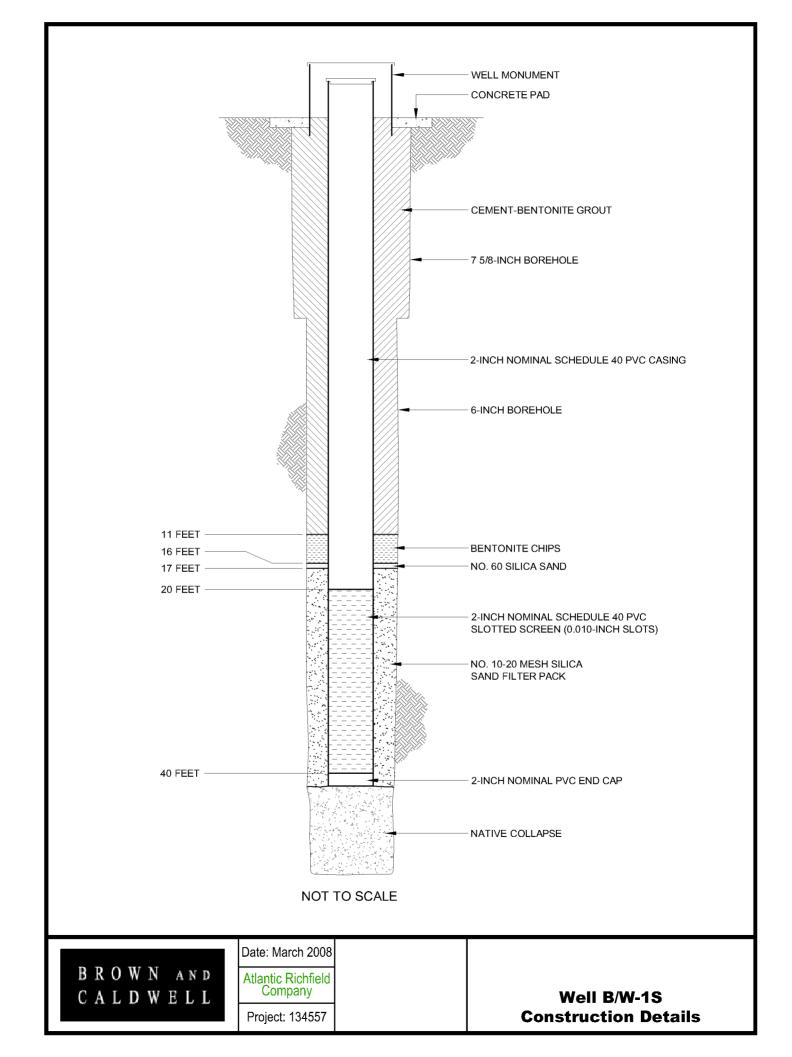
SCREEN SLOT SIZE: 0.02°

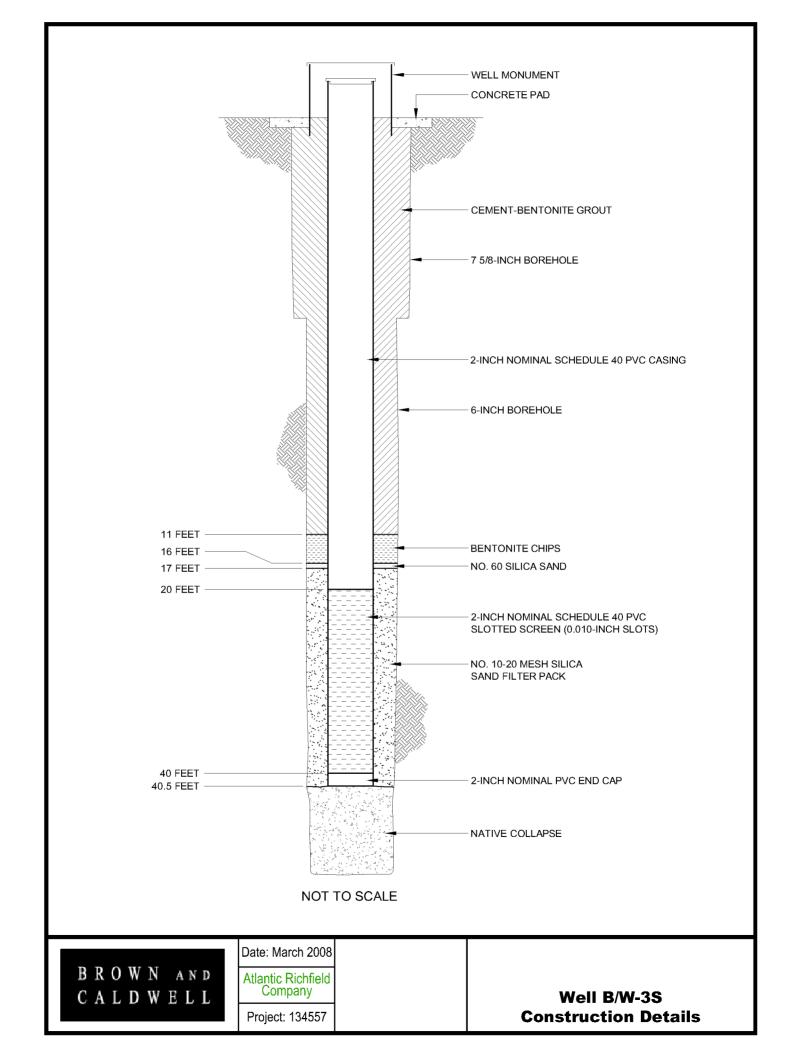
SCREEN TYPE: SCH 40 PVC

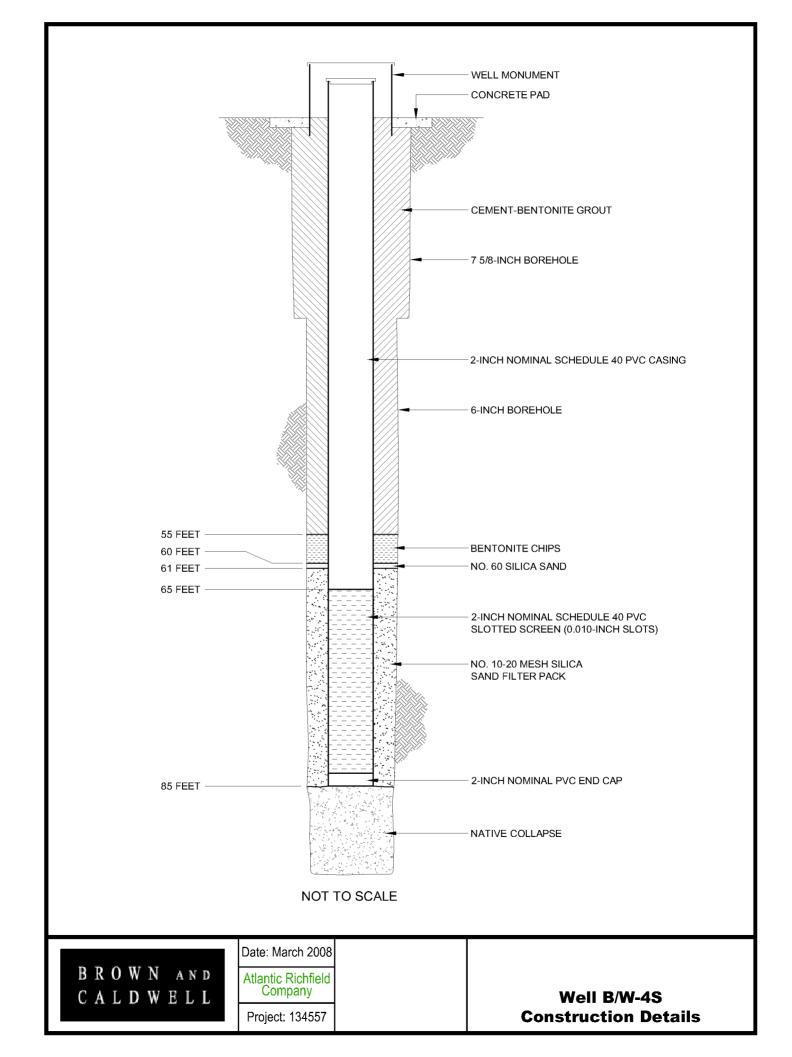
FILTER PACK: #3 SAND

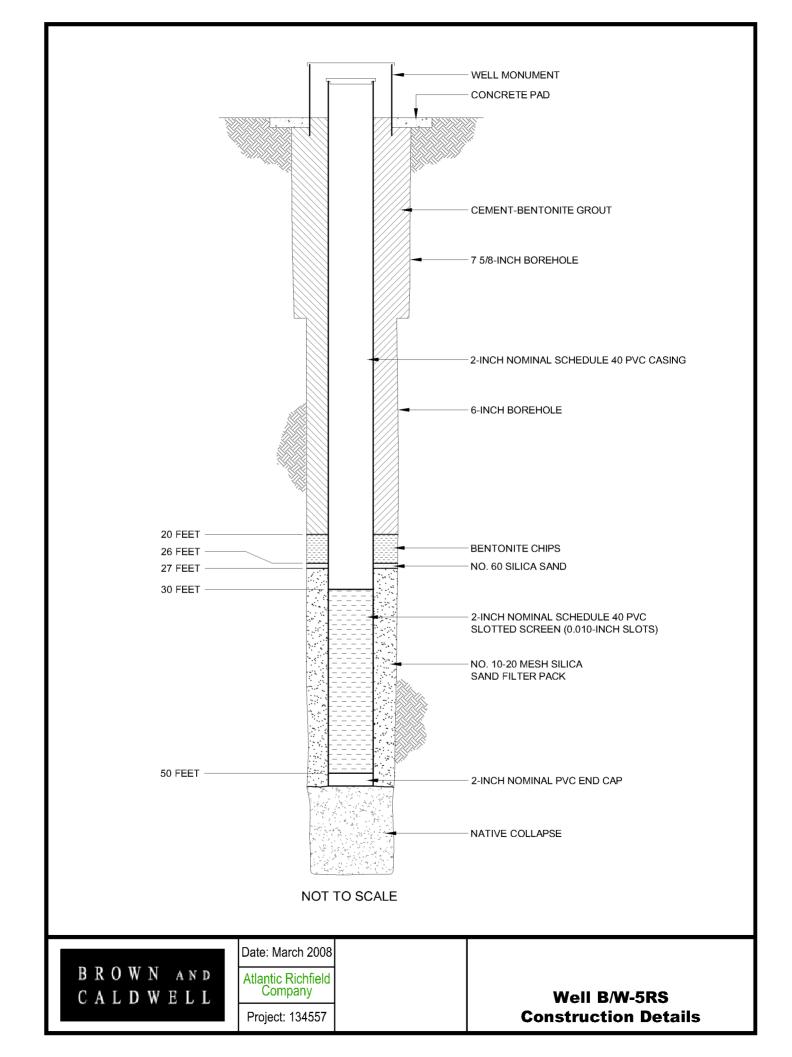
CASING DIAMETER: 4", 6" AT SURFACE
CASING MATERIAL: SCH 40 PVC
BORING DIAMETER: 12"
TOP OF CASING ELEV. (FT): 4367.75
GROUND ELEVATION (FT): 4367.25
LOCATION: NORTH BERM
NORTHING (FT): 45181.40
EASTING (FT): 26402.94

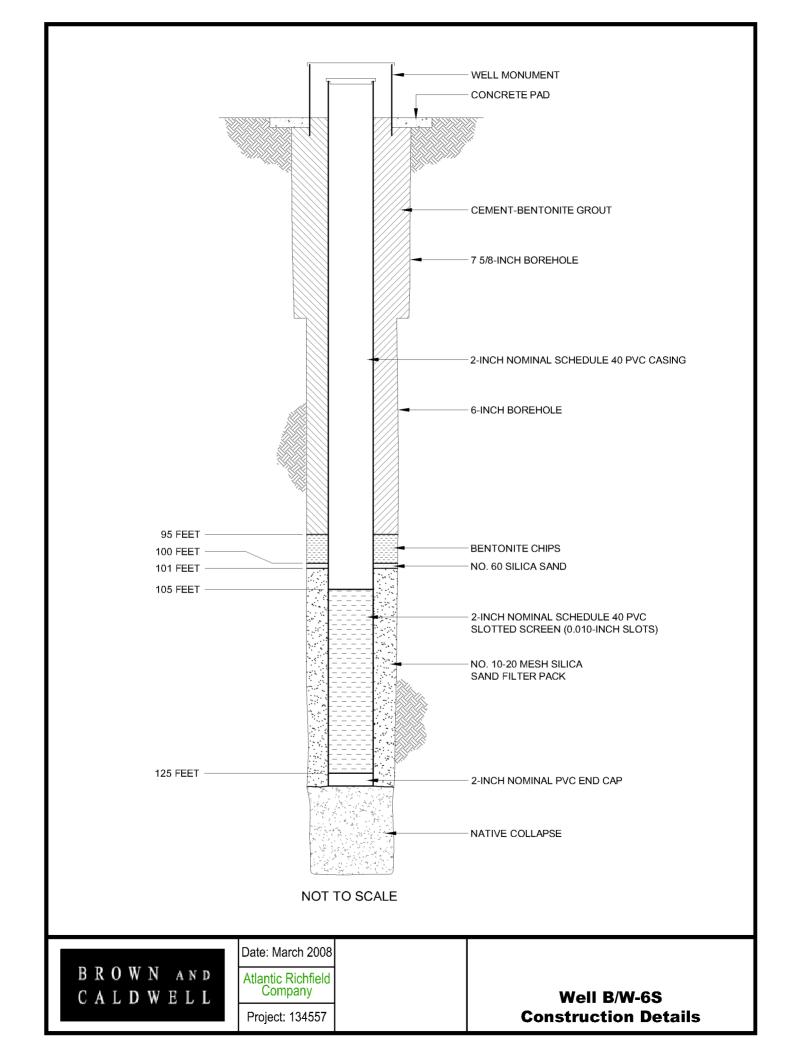


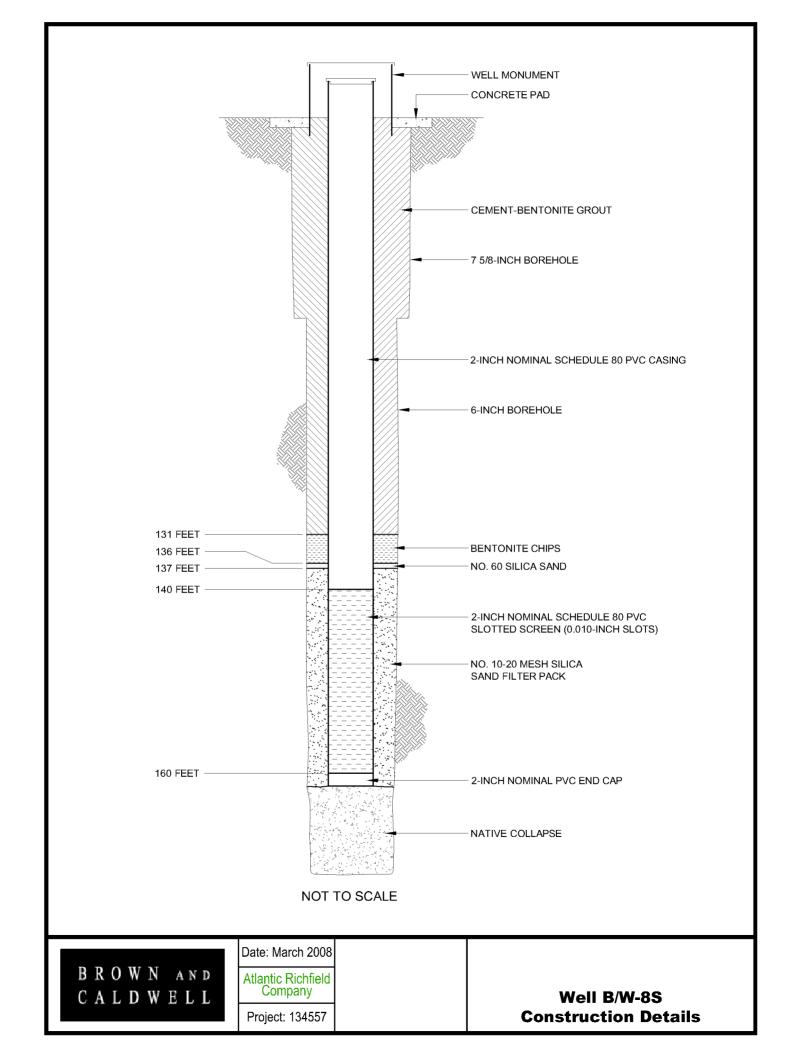


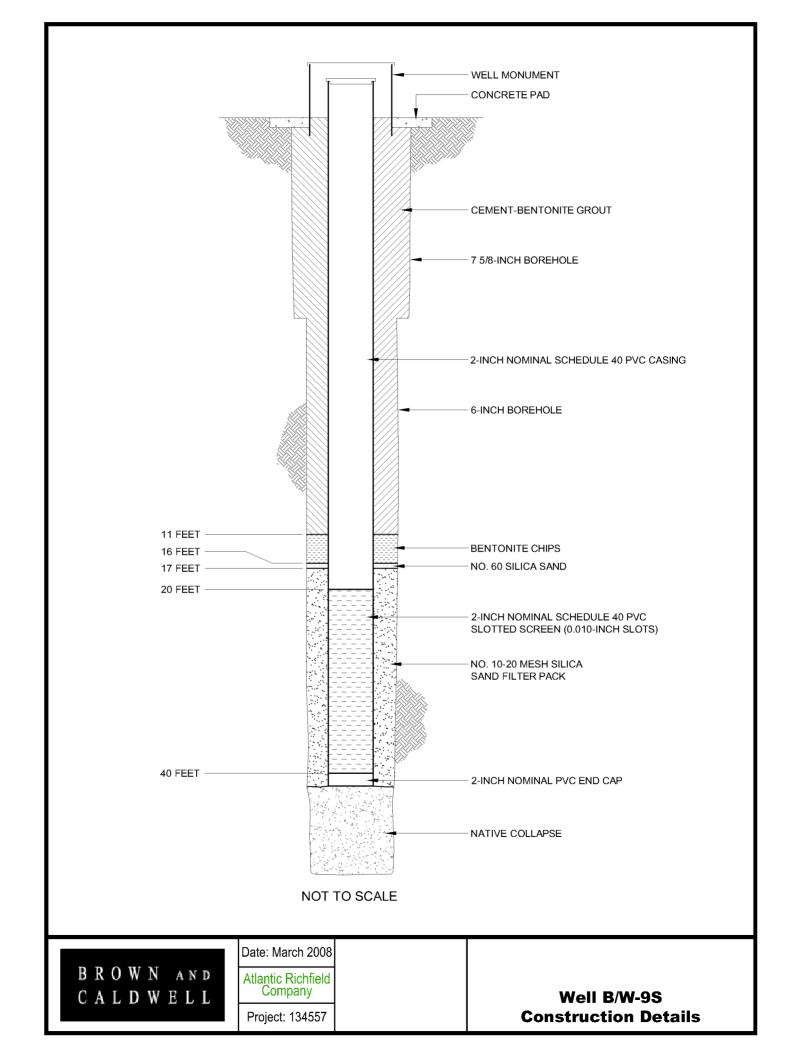


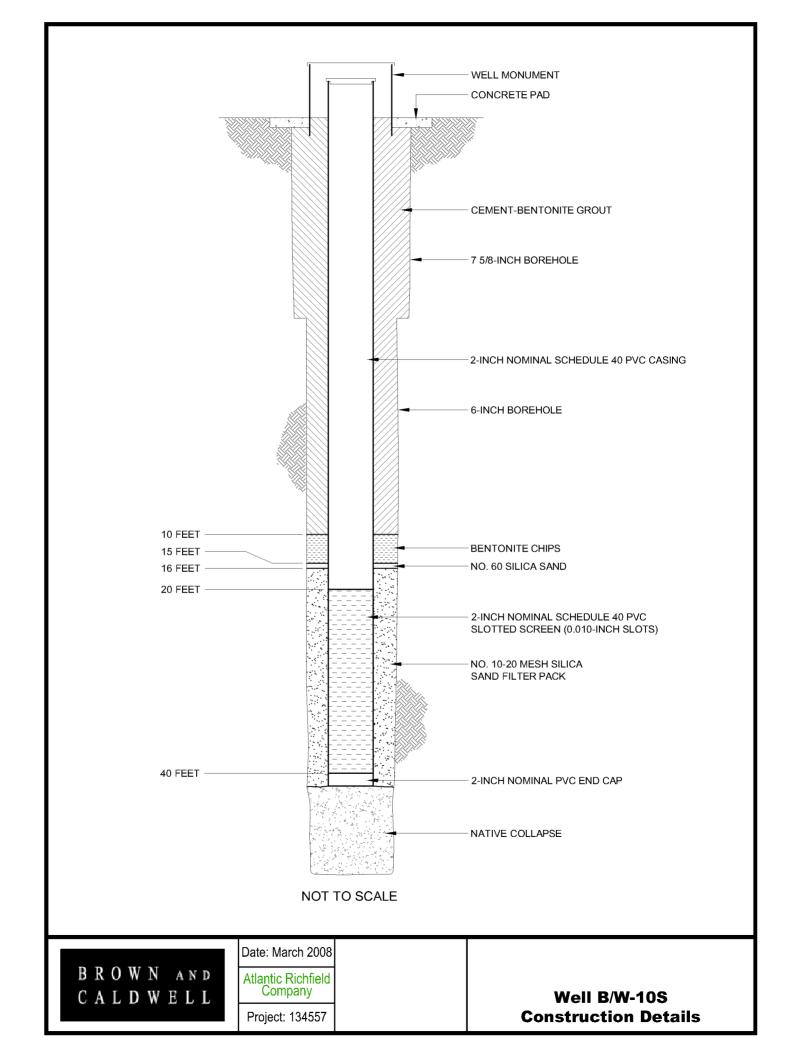


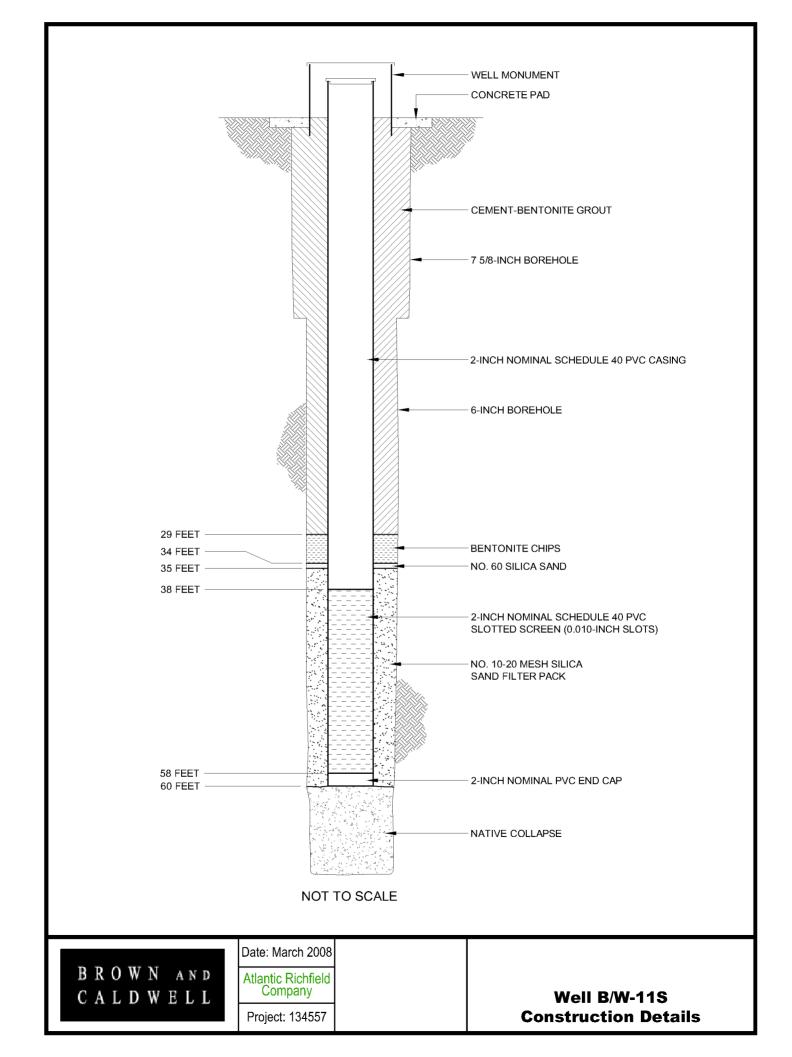


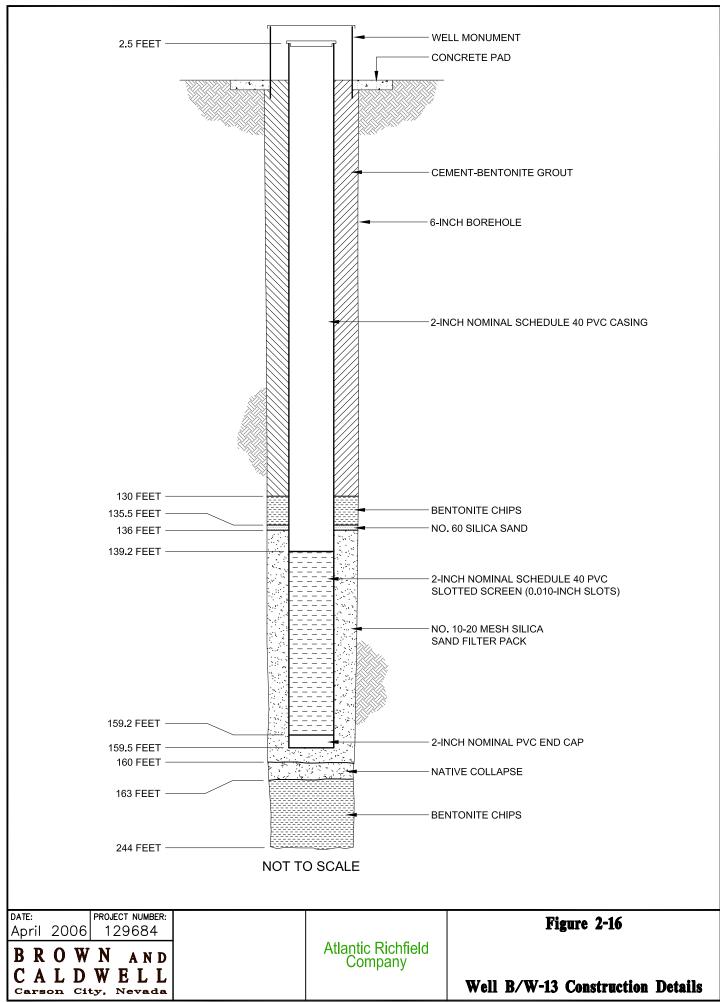












BORING LOG

Project Name: Yerington Groundwater Investigation						Well Number: D/ VV -13						
Soil Borir	ng [Monitoring Well X	Project Num	ber:	_		1212	243.021			1 of 13	
Boring Location: South of Pit Lake, west of highway					East: 326838.9 North: 1535222					6838.9 535222.9		
Drilling Contractor: WDC Driller: M. Wilkerson					Date Started: 7/7/05 Date Finished: 7/13/05 Total Water Depth:						7/13/05	
Drilling Equipment: GEFCO SS-15K-HL, Roussy Sonic Head					Depth: (feet) 244.0 (feet) 126.5' / 124.							
Sampling Method: Core Barrel Borehole Diameter: 6"					Well Diameter and Material: 2-inch PVC Screened Interval							
Drilling Method: Sonic, utilized 6" casing and a 4.5" core barrel					and Well Depth: 139.2-159.2 ft., bottom at 159.5 ft.							
Well Seal: Bentontite and Cement						Slot Size: 0.020" Filter Material: #10-20 Silica Sand						
Logged By: C. Gardner					Development Method: Swabbed, bailed, pumped							
Depth (feet) Elevation (feet)	USCS Group Symbol	Description				Cithology Lithology	Log Me II	Remarks				
5— - - - - - - - - - - - - - - - - - - -	SM SW-SM CL ML	SILTY SAND with GRAVEL (0-1. Dry, very dense, no odor. Primarily medium to fine sand with gravel to 40 mm, and ~15% silt and angular to subrounded, the gravel and The fines are nonplastic, are light brogged to the fines are nonplastic, are light brogged to the fines are nonplastic, are light brogged to fine sand with silt of the fines are no odor. Primarily medium to fine sand with gravel to 60 mm, and ~10% silt and subangular to subrounded, the grave subangular. The fines are nonplastic and have a strong reaction to HCl. SANDY LEAN CLAY (4-5.75 feet) Dry, very dense, no odor. Primarily silt and clay with ~35% fir to 30 mm. The sand is subangular to subangular. The fines the and toughness, are brown, and have SANDY SILT (5.75-10 feet) Dry, very hard, no odor. Primarily silt and clay with ~40% mrand toughness, are brown, and have Sandy Silt and clay with ~40% mrand for the first subrounded, the gravel is angular to have low plasticity and toughness an gray (2.5Y 6/2).	~15% coarse sand, ~40% clay. The sand is gular to subangular. own, and have a strong F and GRAVEL (1.5-4 ~20% coarse sand, ~20% clay. The sand is lis angular to the sand and and and and and and and and and				Y/) P.	on ASTM M visual-manu determinative based on the System. Mu Horizontal state Nevada Nevada We Sharp contagradational dashed line. All depths a unless state. WELL DES Screened In Bottom of s Cement Grogen Bentonite C Filter Pack: #10-20 San Native Coll Bentonite C Depth to W Top of PVC Top of PVC amsl.	Method D-248 al procedure ons and nome e Unified Soil unsell colors of survey data is State Plane s est zone, in fee acts indicated contacts indicated contacts indicated dotherwise. SIGN for B/W atterval: 139.2- sump: 159.5 f out: 0-130 fee Phips: 130-13 #60 Sand 13 #60 Sand 13 #61 Geapse: 160-166 Chips: 163-24 Stater Measurin C Casing. C Elevation: 4	dicated by solid lines, cts indicated by ow land surface rwise. for B/W-13: : 139.2-159.2 feet. 159.5 feet. 130 feet. 130-135.5 feet. Sand 135.5-136 feet, -160 feet. 160-163 feet. 163-244 feet. Measuring Point is		
449		SILTY GRAVEL with SAND (10-1) Dry, very dense, no odor. Primarily gravel to 60 mm with ~30% and ~20% silt and clay. The sand ar to subrounded. The fines are nonpla have a strong reaction to HCl.	% coarse to medium sand ad gravel are subangular —	-								

BORING LOG

B/W-13 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 2 of 13 Monitoring Well Sheet Soil Boring Project Number: ISCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SILTY SAND with GRAVEL (16-17.25 feet) Dry, very dense, no odor. Primarily coarse to fine sand with ~20% gravel to 30 mm and ~35% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown (10YR 5/3), and have a strong reaction to HCl.

SILTY SAND with GRAVEL (17.25-19.25 feet) Dry, very dense, no odor. 4485 Primarily coarse to fine sand with ~20% gravel to 50 mm and ~20% silt and clay. The sand is angular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a weak reaction to HCl CLAYEY SAND with GRAVEL (19.25-20 feet) Dry, very dense, no odor. 20 Primarily medium to fine sand with ~20% fine gravel to 15 mm, and ~35% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines have medium plasticity and toughness, are brown (10YR 5/3), and have a strong reaction to HCl. **SILTY SAND with GRAVEL** (20-21.5 feet) SM Dry, very dense, no odor. Primarily medium to fine sand with ~30% gravel to 50 mm and ~20% silt and clay. The sand and gravel are subangular | to subrounded. The fines are nonplastic, are light brown, and have a weak reaction to HCl. SILTY SAND with GRAVEL (21.5-23.5 feet) 4480 Dry, very dense, no odor. Primarily medium to fine sand with ~20% gravel to 20 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are grayish brown, and have a strong reaction to HCl.

WELL-GRADED SAND with GRAVEL (23.5-25 feet) 25 Dry, very dense, no odor. Primarily medium to fine sand with ~25% coarse sand, ~45% gravel to 25 mm, and ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are grayish brown, and have a strong reaction to HCl SILTY SAND with GRAVEL (25-26 feet) GW-Dry, very dense, no odor. GM Primarily medium to fine sand with ~30% gravel to 25 mm and ~30% silt and clay. The sand is subangular to subrounded, the gravel is angular to subrounded. The fines are nonplastic, are grayish brown, and have a strong reaction to HCl 4475 SILTY SAND with GRAVEL (26-26.5 feet) Dry, very dense, no odor. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Primarily sand with ~30% gravel to 30 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are light grayish brown, and have a strong reaction to HCl.

WELL-GRADED GRAVEL with SILT and SAND 30 (26.5-27.5 feet) Dry, very dense, no odor. Primarily gravel to 30 mm with ~30% coarse to medium sand and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are light brown, and have a strong reaction to HCl WELL-GRADED SAND with SILT and GRAVEL SC (27.5-32 feet) Dry, very dense, no odor. Primarily coarse to medium sand with, ~15% fine sand, ~45% gravel to 40 mm, and ~10% silt and clay. The sand is 4470 subangular to subrounded, the gravel is angular to SM subangular. The fines are nonplastic, are light brown, and have a strong reaction to HCl. CLAYEY SAND with GRAVEL (32.-33.25 feet) Dry, very dense, no odor.

BORING LOG

B/W-13 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 3 of 13 Monitoring Well Sheet Soil Boring Project Number: SCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily sand with ~30% gravel to 20 mm and ~30% silt 35 and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines have medium plasticity GW and toughness, are yellowish brown (10YR 5/4), and have a strong reaction to HCl SILTY SAND with GRAVEL (33.25-35.5 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~20% coarse sand, ~20% Igravel to 30 mm, and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, kire light brown, and have a strong reaction to HCl. WELL-GRADED GRAVEL with SAND (35.5-39 feet) Dry, medium dense, no odor. 4465 Primarily gravel to 75 mm with ~30% coarse to medium sand and ~5% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl.

SANDY LEAN CLAY (39-39.25 feet) Dry, very dense, no odor. Primarily silt and clay with ~35% medium to fine sand and 40 ~10% fine gravel to 15 mm. The sand is subangular to subrounded, the gravel is angular to subangular. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and have a strong reaction HCl. SM SANDY LEAN CLAY (39.25-40 feet) Dry, very dense, no odor. Primarily silt and clay with ~40% medium to fine sand and 5% gravel to 40 mm. The sand is subangular to subrounded, the gravel is angular to subrounded. The fines have medium plasticity and toughness, are gray (5Y 6/1), and have a strong reaction HCl.

WELL-GRADED SAND with SILT and GRAVEL 4460 (40-41.25 feet) Dry, very dense, no odor. CL Primarily coarse to medium sand with ~25% gravel to 60 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is angular to subrounded. The fines are nonplastic, are brown, and have a strong reaction to HCl. SILTY SAND with GRAVEL (41.25-44 feet) 45 Dry, very dense, no odor. Primarily medium to fine sand with ~15% coarse sand, ~30% gravel to 20 mm, and ~25% silt and clay. The sand is subangular to subrounded, the gravel is angular to subrounded. The fines are nonplastic, are light brown, and have a strong reaction to HCl. SANDY LEAN CLAY (44-47.25 feet) Dry, very dense, no odor. Primarily silt and clay with ~45% medium to fine sand and 5% gravel to 50 mm. The sand is subangular to 4455 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are light brownish gray (2.5Y 6/2), and have a strong reaction HCl SILTY SAND with GRAVEL (47.25-50 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~15% coarse sand, ~35% gravel to 50 mm, and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are grayish brown, and have a strong reaction to WELL-GRADED GRAVEL with SAND (50-52.5 feet) Dry, very dense, no odor. Primarily gravel to 50 mm with ~20% medium to fine sand and ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular to subrounded. The fines are nonplastic, are light brown, and have a weak reaction to SILTY GRAVEL with SAND (52.5-56 feet) 4450 Dry, very dense, no odor. Primarily gravel to 25 mm with ~25% medium to fine sand and ~15% silt and clay. The sand and gravel are subangular

BORING LOG

B/W-13 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 **4** of **13** \mathbf{X} Monitoring Well Soil Boring Sheet Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well to subrounded. The fines are nonplastic, are light brown, and have a strong reaction to HCl. 55 **CLAYEY GRAVEL with SAND** (56-59.5 feet) Dry, medium dense, no odor. Primarily gravel to 40 mm with ~20% medium to fine sand and ~35% silt and clay. The sand is subangular to subrounded, the gravel is angular to subrounded. The fines have medium plasticity and toughness, are light brown, and have a weak reaction to HCl. 4445 GW- WELL-GRADED GRAVEL with SILT and SAND (59.5-60.75 feet) 60 Dry, medium dense, no odor. Primarily gravel to 50 mm with ~25% medium to fine sand and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and have a strong reaction to HCl. CLAYEY SAND (60.75-63 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~10% fine gravel to 15 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, are grayish brown (2.5Y 5/2), and have a 4440 SC strong reaction to HCl CLAYEY SAND with GRAVEL (63-65 feet) Dry, medium dense, no odor. Primarily medium to fine sand with ~30% gravel to 30 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, are brownish gray, and have a strong reaction to 65 CLAYEY SAND (65-70 feet) Dry, medium dense, no odor. Primarily medium to fine sand with $\sim 10\%$ gravel to 30 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, are grayish brown (2.5Y 5/2), and have a weak reaction to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 4435 SILTY SAND with GRAVEL (70-72.5 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 40 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and have a weak reaction to HCl. SANDY LEAN CLAY (72.5-73 feet) Dry, very hard, no odor. Primarily silt and clay with ~50% medium to fine sand and trace fine gravel to 5 mm. The sand is subangular to

BORING LOG

B/W-13 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 5 of 13 \mathbf{X} Monitoring Well Sheet Soil Boring Project Number: JSCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well subrounded. The fines have medium plasticity and SW-SM toughness, are brown (10YR 5/3), and do not react to HCl SILTY SAND with GRAVEL (73-74 feet) Dry, very dense, no odor. 75 Primarily medium to fine sand with ~15% gravel to 40 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and have a weak reaction to HCl.

WELL-GRADED SAND with SILT (74-77.5 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~10% fine gravel to 15 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. WELL-GRADED GRAVEL with SILT and SAND (77.5-79 feet) 4425 Dry, very dense, no odor. Primarily gravel to 25 mm with ~20% medium to fine sand and ~10% silt and clay. The sand is subangular to subrounded, the gravel is angular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. CLAYEY SAND (79-80 feet) 80 Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 25 mm and ~35% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines have medium plasticity and low toughness and are brown.

WELL-GRADED SAND with SILT and GRAVEL (80-83.5 feet) Dry, medium dense, no odor. Primarily coarse to fine sand with ~30% gravel to 75 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is angular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. 4420 GW WELL-GRADED GRAVEL with SAND (83.5-86 feet) Dry, very dense, no odor. Primarily gravel to 75 mm with ~30% coarse to fine sand and ~5% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not 85 react to HCl. SM | SILTY SAND with GRAVEL (86-90 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~30% gravel to 60 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 are nonplastic, are grayish brown, and do not react to HCl. 4415 SILTY SAND with GRAVEL (90-97 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~30% gravel to 40 mm and ~40% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. Gravel seam in the lower 6-inches of the interval.

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B/W-13 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 6 of 13 Monitoring Well Soil Boring Sheet Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 95 SILTY SAND with GRAVEL (97-98.5 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~15% coarse sand, ~25% fine gravel to 15 mm, and ~40% silt and clay. The sand is 4405 subangular to subrounded, the gravel is angular to subrounded. The fines are nonplastic, are brown, and have a weak reaction to HCl.

WELL-GRADED SAND with SILT (98.5-99.5 feet) SM Moist to saturated, very dense, no odor. Primarily medium to fine sand with trace fine gravel to 5 mm and ~10% silt and clay. The sand is subangular to 100 subrounded. The fines are nonplastic, are light brown, and do not react to HCl. **SILTY SAND** (99.5-100 feet) Moist to saturated, very dense, no odor. Primarily medium to fine sand with ~25% gravel to 40 mm and ~25% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. SILTY SAND with GRAVEL (100-101.5 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~30% gravel to 50 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are 4400 nonplastic, are brown, and have a strong reaction to HCl. CLAYEY SAND with GRAVEL (101.5-102.5 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~35% gravel to 70 mm and ~25% silt and clay. The sand and gravel are subangular 105 to subrounded. The fines have medium plasticity and toughness, are grayish brown, and have a strong reaction to HCI SANDY LEAN CLAY (102.5-110 feet) Dry, very hard, no odor. Primarily silt and clay with ~35% medium to fine sand and ~5% gravel to 20 mm. The sand is subangular to SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 subrounded, the gravel is angular to subangular. The fines have medium plasticity and toughness, are grayish brown (10YR 5/2), and have a strong reaction to HCl. 4395 SM | SILTY SAND (110-116 feet) Dry, very dense, no odor. Primarily medium to fine sand with trace fine gravel to 15 mm and ~25% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and do not react to HCl.

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B/W-13 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 7 of 13 Monitoring Well Sheet Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 4390 15 SILTY SAND (116-117 feet) Dry, very dense, no odor. Primarily medium to fine sand with trace fine gravel to 5 mm and ~35% silt and clay. The sand is subangular to rounded. The fines are nonplastic, are brown, and have a weak reaction to HCl WELL-GRADED SAND with SILT (117-120 feet) Dry, medium dense, no odor. 4385 Primarily medium to fine sand with trace fine gravel to 10 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and do not react to HCl. 120 GM SILTY GRAVEL with SAND (120-120.2 feet) Dry to moist, medium dense, no odor. Primarily gravel to 30 mm with ~30% medium to fine sand and ~15% silt and clay. The sand and gravel are subangular SW-1 to subrounded. The fines are nonplastic, are brown, and do SM not react to HCl.

CLAYEY SAND (120.2-121.2 feet) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% fine gravel to 10 mm and ~40% silt and clay. The sand and gravel are subangular to subrounded. The fines have medium plasticity 4380 and toughness, are light brownish gray, and do not react to WELL-GRADED SAND with SILT (121.2-125 feet) Dry from 121.2-123, moist to saturated from 123-125, dense, Primarily medium to fine sand to ~1 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are 125 nonplastic, are brown, and do not react to HCl.

WELL-GRADED SAND with SILT (125-126.75 feet) Moist to saturated, medium dense to very dense, no odor. Primarily medium to fine sand with trace gravel and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not YERINGTON.GPJ BRN&CALD.GDT 1/31/06 react to HCl. SP POORLY-GRADED SAND (126.75-127.5 feet) Saturated, medium dense, no odor. \overline{SW} -Primarily medium to fine sand with trace fine gravel to 10 mm and ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are 4375 brown, and do not react to HCl.

WELL-GRADED SAND with SILT (127.5-129 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~10% fine gravel to 15 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl.

SANDY LEAN CLAY (129-129.75 feet) 130 SM Dry, no odor. SONIC METHOD LOG SM Primarily silt and clay with ~50% medium to fine sand to 2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are dark gray (10YR 4/1), and have a weak reaction to HCl. WELL-GRADED SAND with SILT (129.75-130.75 feet) Saturated, medium dense, no odor.

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B/W-13 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 8 of 13 \mathbf{X} Monitoring Well Sheet Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily medium to fine sand with ~10% fine gravel to 15 and ~10% silt and clay. The sand and gravel are subangular 4370 to subrounded. The fines are nonplastic, are brown, and do GW-hot react to HCl. GM SILTY SAND with GRAVEL (100-101.5 feet) Moist, very dense, no odor. Primarily medium to fine sand with ~45% gravel to 70 mm and ~15% silt and clay. The sand and gravel are subangular 135 to subrounded. The fines are nonplastic, are light brown, and have a strong reaction to HCl.

WELL-GRADED GRAVEL with SILT and SAND (133.5-136 feet) CL Moist, very dense, no odor. Primarily gravel to 70 mm with ~20% medium to fine sand and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and have a weak to no reaction to HCl.

SANDY LEAN CLAY (136-137 feet) Dry, very hard, no odor. Primarily silt and clay with ~35% medium to fine sand and 4365 ~10% gravel to 20 mm. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are gray (10YR 5/1), and have a weak reaction to HCL WELL-GRADED GRAVEL with SILT and SAND (137-140 feet) 140 Saturated, medium dense, no odor. Primarily gravel to 30 mm with ~30% sand and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. SILTY SAND with GRAVEL (140-141.25 feet) GW Saturated, medium dense, no odor. Primarily medium to fine sand with ~40% gravel to 30 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines 145 140 are nonplastic, are brown, and do not react to HCl. WELL-GRADED GRAVEL with SAND (141.25-143.25 **©** B/W-13 feet) 4360 Saturated, medium dense, no odor. SM Primarily fine gravel to 15 mm with ~20% coarse to medium sand and ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are gray, and do not react to HCl.

SILTY SAND with GRAVEL (143.25-144 feet) 145 Saturated, medium dense, no odor. Predominately medium to fine sand with ~15% gravel to 75 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. YERINGTON.GPJ BRN&CALD.GDT 1/31/06 WELL-GRADED SAND (144-153 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace gravel to 20 mm and ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. 4355 SONIC METHOD LOG

BORING LOG

B/W-13 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 9 of 13 Monitoring Well Sheet Soil Boring Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 4350 SM SILTY SAND with GRAVEL (153-154.75 feet) Moist, very dense, no odor. Primarily medium to fine sand with ~30% gravel to 25 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and have a weak reaction to HCl. **SILTY SAND** (154.75-155.5 feet) 155 Moist to saturated, very dense, no odor. Primarily medium to fine sand with ~5% fine gravel to 15 SM mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. SILTY SAND with GRAVEL (155.5-159 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with ~15% coarse sand, ~20% gravel to 20 mm, and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are light brownish gray (2.5Y 2/6), and have a 4345 weak to no reaction to HCl. SM | SILTY SAND with GRAVEL (159-160 feet) Dry to moist, very dense, no odor. Primarily medium to fine sand with $\sim\!20\%$ coarse sand, $\sim\!20\%$ 160 gravel to 20 mm, and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. - 164] WELL-GRADED GRAVEL with SAND (160-161.5 feet) Saturated, medium dense, no odor. Primarily gravel to 30 mm with ~45% coarse to medium sand 159 and ~5% silt and clay. The sand and gravel are angular to (9) subangular. The fines are nonplastic, are brown, and do not B/W-13 SWreact to HCl SANDY LEAN CLAY (161.5-162 feet) SM Dry, very hard, no odor. Primarily silt and clay with ~35% sand and trace fine gravel 4340 to 8 mm. The sand is angular to subrounded, the gravel is angular to subangular. The fines have medium plasticity and toughness, are strong brown (7.5YR 4/6), and do not react to SM WELL-GRADED SAND with SILT (162-162.5 feet) Saturated, medium dense, no odor. 165 Primarily medium to fine sand with trace fine gravel to 8 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and do not react to HCl. YERINGTON.GPJ BRN&CALD.GDT 1/31/06 INTERBEDDED SILTY SAND with GRAVEL and SANDY LEAN CLAY (162.5-164 feet) SILTY SAND with GRAVEL Saturated, medium dense, no odor. Primarily medium to fine sand with ~20% coarse sand, ~20% gravel to 20 mm, and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. 4335 SANDY LEAN CLAY Moist, hard, no odor. Primarily silt and clay with ~35% medium to fine sand and trace coarse sand to 2.5 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl SILTY SAND with GRAVEL (164-170 feet) SONIC METHOD LOG SM Moist, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 40 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do INTERBEDDED SILTY SAND with GRAVEL and

BORING LOG

Well Number: **B/W-13 Yerington Groundwater Investigation** Project Name: 121243.021 Sheet <u>10</u> of <u>13</u> ${f X}$ Soil Boring Monitoring Well Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SANDY LEAN CLAY (170-171.5 feet) SILTY SAND with GRAVEL Moist, medium dense, no odor. Primarily medium to fine sand with ~15% coarse sand, ~20% 4330 gravel to 50 mm, and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. SANDY LEAN CLAY Moist, very hard, no odor. Primarily silt and clay with ~35% medium to fine sand and -5% fine gravel to 12 mm. The sand is subangular to 175 subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown (10YR 4/3), and do not react to HCl.

SANDY LEAN CLAY (171.5-180 feet) Moist, very hard, no odor. Primarily silt and clay with ~45% sand and ~5% fine gravel to 12 mm. The sand is subangular to subrounded, the gravel is angular to subangular. The fines have medium plasticity and toughness, are mostly brown (10YR 4/3) with some very dark gray sediments (10YR 3/1), and do not react to HCl. 4325 180 SANDY LEAN CLAY with GRAVEL (180-184 feet) Moist, very hard, no odor. Primarily silt and clay with ~30% sand and ~15% gravel to 75 mm. The sand is angular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown (10YR 5/3), and have a weak to no reaction to 4320 NO RECOVERY 185 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 B/W-13 @ 185 - 190 Ft 4315 WELL-GRADED GRAVEL with SAND (191-192.5 feet) Saturated, medium dense, no odor

Proje	ect Nan	ne:	Yerington Groundwater Investigation	v	Vell Nu						
Soil	Boring		Monitoring Well Project Numbe	121243.021 Sheet 11 of 13							
Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Sample No.	Sample	Lithology Lithology	Mell		Remarks		
195 —	4310	CL SM	Primarily gravel to 30 mm with ~25% coarse to medium sand and ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are grayish brown, and do not react to HCl. SANDY LEAN CLAY (192.5-193.5 feet) Moist, very hard, no odor. Primarily silt and clay with ~30% coarse to fine sand and trace fine gravel to 10 mm. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown (10YR 4/3), and do not react to HCl. SILTY SAND with GRAVEL (193.5-200 feet) Moist, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl.								
200 -		SC	CLAYEY SAND with GRAVEL (200-203 feet) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~35% gravel to 30 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, are brownish gray, and have a weak to no reaction to HCl.								
- - - 205 -	4300	SC	CLAYEY SAND with GRAVEL (203-206 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~15% fine gravel to 15 mm and ~45% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are grayish brown (2.5Y 5/2), and have a strong reaction to HCl.								
SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06	4295	CL	SANDY LEAN CLAY (206-210 feet) Dry to moist, very hard, no odor. Primarily silt and clay with ~40% medium to fine sand and ~5% fine gravel to 12 mm. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, are grayish brown (2.5Y 5/2), and have a strong reaction to HCl. SANDY FAT CLAY (210-212.75 feet)								
SONIC A			Dry to moist, very hard, no odor. Primarily silt and clay with ~20% medium to fine sand and ~5% fine gravel to 10 mm. The sand and gravel are								

BORING LOG

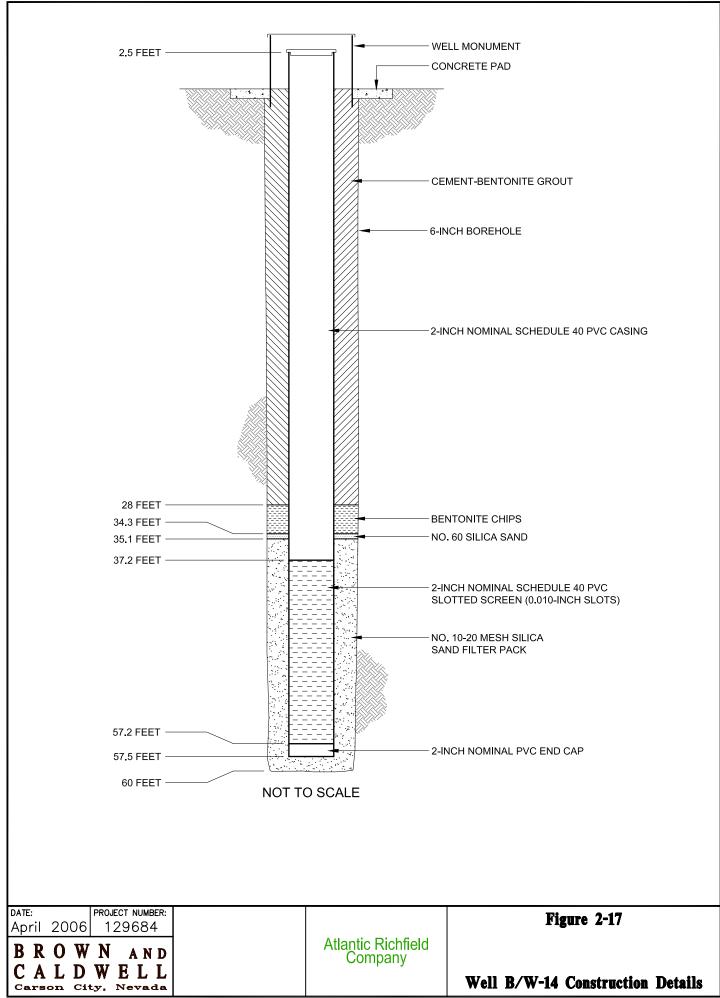
B/W-13 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>12</u> of <u>13</u> \mathbf{X} Monitoring Well Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well subangular to subrounded. The fines have high plasticity and toughness, are dark yellowish brown (10YR 4/4) to yellowish red (5YR 4/6), and have a strong reaction to HCl. CH **SANDY FAT CLAY** (212.75-213.75 feet) 4290 Dry, very hard, no odor. Primarily silt and clay with ~40% medium to fine sand and trace fine gravel to 10 mm. The sand is subangular to subrounded, the gravel is subangular. The fines have high plasticity and medium toughness, are very dark gray (10YR 3/1), and do not react to HCl.

FAT CLAY with SAND (213.75-214.75 feet) 2.15 Dry, very hard, no odor. Primarily silt and clay with ~20% medium to fine sand and trace coarse sand to 2 mm. The sand is subangular to subrounded. The fines have high plasticity and toughness, are mottled dark yellowish brown (10YR 4/6) to grayish brown (10YR 5/2) to pinkish white (5YR 8/2), and do not react to HCl WEATHERED GRANITE (219.75-219.75 feet) Dry, very hard, no odor. Fractured and weathered granite with ~55% secondary silt and clay. The fines have high plasticity, medium toughness, 4285 are light brownish gray (10Y/R 6/2), and do not react to HCl. CH FAT CLAY (219.75-220 feet) 220 Dry, very hard, no odor. Primarily silt and clay with ~15% sand and trace fine gravel to 12 mm. The sand is subangular to subrounded, the gravel is subangular. The fines have high plasticity and medium toughness, are light brownish gray (2.5Y 6/2), and do not react to HCl. WEATHERED GRANITE (220-226 feet) Dry, very hard, no odor. Fractured and weathered granite with ~55% secondary silt and clay. The fines have high plasticity, medium toughness, are light brownish gray (10YR 6/2), and do not react to HCl. 4280 METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 225 WEATHERED TUFF (226-228.5 feet) Dry, very hard, no odor. Fractured weathered volcanic tuff with ~20% secondary silt and clay, includes some angular quartz clasts to 3 mm. The fines have medium plasticity and toughness, are reddish brown to weak red with some pink, and do not react to HCl. 4275 WEATHERED TUFF (228.5-229 feet) Dry, very hard, no odor. Fractured weathered volcanic tuff with ~30% secondary silt and clay, includes some angular quartz clasts to 3 mm. The fines have are nonplastic, are yellowish red (5YR 5/6), and do not react to HCl. WEATHERED TUFF (229-243 feet) Dry, very hard, no odor.

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Well Number: B/W-13**Yerington Groundwater Investigation** Project Name: \mathbf{X} 121243.021 Sheet <u>13</u> of <u>13</u> Monitoring Well Soil Boring Project Number: ISCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Fractured weathered volcanic tuff with ~10% secondary silt and clay, includes some elemental sulfur and angular quartz clasts to 3 mm. The fines have are nonplastic, are pinkish white (5YR 8/2) to light reddish brown (5YR 6/3), and do not react to HCl. 4270 235 4265 240 4260 CH WEATHERED ASH / FAT CLAY (243-243.5 feet) Dry, very hard, no odor. Entirely silt and clay with high plasticity, medium toughness, are brown (10YR 5/3), and do not react to HCl.

TUFF (229-243 feet) SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Dry, very hard, no odor. Crystalline volcanic tuff, pale red (2.5YR 7/2) and white (2.5YR 8/1), with some angular quartz clasts to ~3 mm. Does not react to HCl.



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B/W-14 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 1 of 16 Monitoring Well Soil Boring Project Number: Sheet 329551.6 East: Boring Location: Southeast of Pit Lake, east of highway near river Elevation: 4394.1 feet amsl North: 1538561.1 Drilling Contractor: WDC Driller: M. Wilkerson 7/6/05 Date Started: **6/15/05** Date Finished: Total Water Depth: Drilling Equipment: GEFCO SS-15K-HL, Roussy Sonic Head 15' / 10.75' 200.0 Depth: (feet) (feet) Well Diameter Sampling Method: Core Barrel Borehole Diameter: 6" 2-inch PVC and Material: Screened Interval Drilling Method: Sonic, utilized 6" casing and a 4.5" core barrel 37.2-57.2 ft., bottom at 57.5 ft. and Well Depth: Well Seal: Bentontite and Cement Slot Size: **0.020''** Filter Material: #10-20 Silica Sand Logged By: C. Gardner Swabbed, bailed, pumped Development Method: Graphic Log SCS Group Symbo Elevation (feet) Depth (feet) Sample No Lithology Sample Description Remarks Well SILTY SAND (0-1.25 feet) Descriptions of drilled cuttings based Dry, medium dense, no odor. on ASTM Method D-2488 (the Primarily medium to fine sand with trace coarse sand to 4 visual-manual procedure), grain-size mm and ~15% silt and clay. The sand is subangular to determinations and nomenclature subrounded. The fines are nonplastic, are yellowish brown based on the Unified Soil Classification (10YR 5/4), and have a strong reaction to HCl. System. Munsell colors described wet. WELL-GRADED SAND with GRAVEL (1.25-2 feet) Dry, loose, no odor. Horizontal survey data is expressed in the Nevada State Plane system, Primarily coarse to medium sand with ~20% fine gravel to 12 mm and ~5% silt and clay. The gravel and sand are Nevada West zone, in feet. CL subangular to subrounded. Sharp contacts indicated by solid lines, LEAN CLAY (2-8.5 feet) gradational contacts indicated by Moist, soft, no odor. dashed line. Primarily silt and clay with trace sand to 5 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are dark brown (10YR 3/3), and have a slight Well B/W-14 was installed in a second reaction to HCl. borehole drilled to 60 feet near the initial borehole location. The initial borehole was abandonded with cement-bentonite grout tremied from 4390 total depth to land surface. All depths are below land surface unless stated otherwise. 5 WELL DESIGN for B/W-14: Screened Interval: 37.2-57.2 feet. Bottom of sump: 57.5 feet. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Cement Grout: 0-28 feet. Bentonite Chips: 28-34.3 feet. Filter Pack: #60 Sand 34.3-35.1 feet, #10-20 Sand 35.1-60 feet. Depth to Water Measuring Point is Top of PVC Casing. POORLY GRADED SAND (8.5-9.25 feet) Top of PVC Elevation: 4,396.56 feet, Moist, loose, no odor. amsl. 4385 Primarily medium to fine sand to 2 mm and ~15% silt and PVC Stick-up: 2.5 feet above land clay. The sand is subangular to subrounded. The fines are surface. CL nonplastic, are light olive brown (2.5Y 5/3), and do not react LEAN CLAY with SAND (9.25-10 feet) Moist, soft, no odor.

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B/W-14 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 2 of 16 Monitoring Well Sheet Soil Boring Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SM Primarily silt and clay with trace sand to 1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are dark grayish brown (2.5Y 4/2), and do not react to HCl. SILTY SAND (10-11 feet) Moist, loose, no odor. SM Primarily fine sand with trace medium sand to 1 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are dark gray (2.5Y 4/1), and do not react to HCl. SILTY SAND (11-12.5 feet) Moist, medium dense, no odor. Primarily fine sand with trace medium sand to 1 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are dark gray (2.5Y 4/1), and do not react to HCl. WELL-GRADED SAND (12.5-14.25 feet) Saturated, loose, no odor. Primarily medium to fine sand with trace fine gravel to 5 mm and \sim 5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are gray (2.5Y 5/1), 4380 and do not react to HCl. - 17 Ft SANDY LEAN CLAY (14.25-15 feet) CL Moist, soft, no odor. (9) Primarily silt and clay with ~30% medium to fine sand to 1 B/W-14 mm. The sand is subangular to subrounded. The fines have 15 medium plasticity and toughness, are very dark gray (5Y 3/1), and do not react to HCl. WELL-GRADED SAND (15-17 feet) Saturated, loose, no odor. Primarily medium sand with ~15% coarse sand, ~5% gravel to 20 mm, and ~5% silt and clay. The sand and gravel are angular to subrounded. The fines are nonplastic, are gray (2.5Y 5/1), and do not react to HCl. CL **LEAN CLAY** (17-18.5 feet) Moist, firm, no odor. Primarily silt and clay with ~5% fine sand to 0.5 mm. The fines have medium plasticity and toughness and do not react to HCl. WELL-GRADED SAND (18.5-19 feet) Saturated, loose, no odor. Primarily medium to fine sand with trace fine gravel to 10 BRN&CALD.GDT 1/31/06 mm, and trace silt and clay. The sand is angular to subrounded, the gravel is subrounded. The fines are nonplastic, are gray, and do not react to HCl WELL-GRADED SAND (18.5-19 feet) Saturated, loose, no odor. 20 Primarily medium to fine sand with trace fine gravel to 7 mm, and trace silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are gray, and do not SW react to HCl SONIC METHOD LOG YERINGTON.GPJ WELL-GRADED SAND (20.5-21.5 feet) Saturated, loose, no odor. Primarily medium sand with ~20% coarse sand, ~10% gravel to 15 mm, and trace silt and clay. The sand and gravel are angular to subrounded. The fines are nonplastic, are gray, and do not react to HCl WELL-GRADED SAND with GRAVEL (21.5-23 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~40% gravel to 75 mm and trace silt and clay. The sand and gravel are angular to subrounded, some gravel is elongated. The fines are nonplastic, are gray, and do not react to HCl

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B/W-14 Yerington Groundwater Investigation Well Number: Project Name: \mathbf{X} 121243.021 3 of 16 Monitoring Well Sheet Soil Boring Project Number: USCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well WELL-GRADED SAND (23-35 feet) Saturated, loose, no odor.

Primarily medium to fine sand with ~10% coarse sand, ~5% gravel to 20 mm, and trace silt and clay. The sand and gravel are angular to subrounded. The fines are nonplastic, are gray, 4370 and do not react to HCl. 25 <u>4365</u> 30 B/W-14 @ 29 - 34 Ft SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 4360 35 WELL-GRADED SAND with GRAVEL (35-36 feet) Saturated, loose, no odor. Primarily medium to fine sand with ~25% gravel to 30 mm and ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular to rounded. The fines are nonplastic, are grayish brown, and do not react to HCl.

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B/W-14 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 **4** of **16** Monitoring Well Sheet Soil Boring Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SW-WELL-GRADED SAND (36-37.25 feet) SM Saturated, loose, no odor. Primarily coarse to medium sand with $\sim 10\%$ fine gravel to 10mm and ~10% silt and clay. The sand is angular to subangular, the gravel is angular to subangular. The fines are nonplastic, are grayish brown, and do not react to HCl. WELL-GRADED SAND with GRAVEL (37.25-38 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~15% gravel to 15 mm and ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are grayish brown, and do not react to HCl. WELL-GRADED SAND with GRAVEL (38-40.75 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~10% gravel to 30 mm 4355 and ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are grayish brown, and do not react to HCl. 40 SW- WELL-GRADED SAND (40.75-41.25 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~5% fine gravel to 5 mm and ~10% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. WELL-GRADED SAND with GRAVEL (41.25-42.25 feet) Saturated, loose, no odor. \overline{SW} Primarily medium to fine sand with ~5% gravel to 20 mm land trace silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines lare nonplastic, are grayish brown, and do not react to HCl.

WELL-GRADED SAND with GRAVEL (42.25-43 feet) SW Saturated, loose, no odor.
Primarily coarse to medium sand with ~30% fine sand, ~5% fine gravel to 30 mm and ~5% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl WELL-GRADED SAND with GRAVEL (43-43.25 feet) Saturated, loose, no odor. SM Primarily coarse to medium sand with ~15% fine sand, ~40% fine gravel to 15 mm and ~5% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, 45 are brown, and do not react to HCl.
WELL-GRADED SAND with GRAVEL (43.25-44 feet) 1/31/06 Saturated, medium dense, no odor. GW Primarily coarse to medium sand with ~15% fine sand, ~40% SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT fine gravel to 15 mm and ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. WELL-GRADED SAND (44-45.5 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~15% fine gravel to 30 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.

WELL-GRADED GRAVEL with SAND (45.5-46 feet) 51 Saturated, loose, no odor. 46 SM Primarily gravel to 40 mm with ~25% coarse to medium sand **@** and trace silt and clay. The sand and gravel is subangular to B/W-14 subrounded. The fines are nonplastic, are brown, and do not react to HCl WELL-GRADED SAND (46-48 feet) Saturated, loose, no odor. Primarily medium to fine sand with ~5% fine gravel to 10

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B/W-14 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 **5** of **16** \mathbf{X} Monitoring Well Soil Boring Sheet Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SM mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. **SILTY SAND** (48-48.75 feet) 50 Saturated, medium dense, no odor. Primarily medium to fine sand with trace coarse sand to 3 mm and ~15% silt and clay. The sand is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.

WELL-GRADED SAND with GRAVEL (48.75-49 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~10% fine sand, ~35% fine gravel to 15 mm and ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl WELL-GRADED SAND (49-54 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. WELL-GRADED GRAVEL with SAND (54-54.5 feet) Saturated, loose, no odor. Primarily gravel to 45 mm with ~20% coarse to medium sand and trace silt and clay. The sand is subangular to subrounded, the gravel is subangular to rounded. The fines 55 are nonplastic, are brown, and do not react to HCl WELL-GRADED SAND with GRAVEL (54.5-58 feet) Saturated, loose, no odor. Primarily coarse to medium sand ~20% fine gravel to 20 mm and trace silt and clay. The sand is subangular to subrounded, the gravel is subrounded. The fines are nonplastic, are brown, and do not react to HCl. SP POORLY GRADED SAND (58-59 feet) Saturated, loose, no odor. BRN&CALD.GDT 1/31/06 Completely medium to fine sand to 1.5 mm. The sand is angular to subangular. WELL-GRADED SAND (59-60 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~5% fine gravel to 20 mm and trace silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, are light brown, and do not react to HCl.

WELL-GRADED GRAVEL with SAND (60-61.5 feet) SONIC METHOD LOG YERINGTON.GPJ GW Saturated, loose, no odor. Primarily gravel to 40 mm with ~40% coarse to medium sand and trace silt and clay. The sand is subangular to subrounded, the gravel is subangular to rounded. The fines are nonplastic, are light brown, and do not react to HCl. GW- WELL-GRADED GRAVEL with SILT and SAND GM (60-61.5 feet) Saturated, loose, no odor. Primarily gravel to 50 mm with ~40% medium to fine sand

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B/W-14 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 <u>6</u> of <u>16</u> \mathbf{X} Monitoring Well Sheet Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are light brown, and do not react to HCl. WELL-GRADED SAND (63-64 feet) Saturated, loose, no odor. Primarily medium sand with ~5% coarse sand to 2.5 mm and ~10% silt and clay. The sand is subangular to rounded. The fines are nonplastic, are light brown, and do not react to HCl. 4330 SANDY LEAN CLAY (64-64.25 feet) Moist, hard, no odor. SP-Primarily silt and clay with $\sim 30\%$ fine sand (< 0.5 mm). The sand is subangular to subrounded. The fines have medium CL plasticity and toughness, are brown (10YR 5/3), and do not 65 react to HCl. POORLY GRADED SAND with SILT (64.25-64.75 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to 0.5 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are light brown, and do not react to HCl. LEAN CLAY with SAND (64.75-68.5 feet) Moist, hard, no odor. Primarily silt and clay with \sim 20% fine sand (<0.5 mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness, are light olive brown (2.5Y 5/3) with some black organic staining, and do not react to HCl. SANDY SILT (68.5-70 feet) Saturated, soft, no odor. Primarily silt and clay with \sim 40% fine sand (<0.5 mm). The sand is subangular to subrounded. The fines have low plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. 70 WELL-GRADED SAND with GRAVEL (70-70.75 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~35% gravel to 30 mm and ~10% silt and clay. The sand is subangular to rounded, GW the gravel is subrounded to rounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl. WELL-GRADED GRAVEL with SAND (70.75-71 feet) Saturated, loose, no odor. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Primarily gravel to 50 mm with ~25% coarse to medium sand and ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do 75 Ft not react to HCl SANDY LEAN CLAY (71-71.25 feet) Moist, stiff, no odor. GW Primarily silt and clay with ~40% medium to fine sand to 0.5 B/W-14 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (7.5YR 5/2), and do not react to HCl WELL-GRADED SAND (71.25-72.5 feet) CL Saturated, loose, no odor. Primarily coarse to medium sand with ~5% gravel to 30 mm and ~5% silt and clay. The sand is angular to rounded, the gravel is subangular. The fines are nonplastic, are brown, and do not react to HCl. 4320 WELL-GRADED GRAVEL (72-73.5 feet) GM Saturated, loose, no odor. Primarily gravel to 30 mm with ~20% coarse to medium sand and ~5% silt and clay. The sand and gravel are subangular SC to rounded. The fines are nonplastic, are brown, and do not

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B/W-14 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 7 of 16 Monitoring Well Sheet Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well react to HCl. SANDY LEAN CLAY (73.5-74.5 feet) Saturated, soft, no odor. CL Primarily silt and clay with ~30% coarse to medium sand and trace gravel to 15 mm. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl SW SILTY GRAVEL (74.5-75 feet) Saturated, loose, no odor. Primarily gravel to 40 mm with ~10% coarse to fine sand and 15% silt and clay. The sand and gravel are subangular to subrounded. The fines are brown and do not react to HCl. SANDY SILT (75-75.1 feet) Saturated, medium dense, no odor. Primarily silt and clay with ~40% medium to fine sand and ~5% fine gravel to 15 mm. The sand is subangular to subrounded, the gravel is subrounded. The fines have low plasticity and toughness, are light olive brown (2.5Y 5/3), and do not react to HCl. 4315 CLAYEY SAND (75.1-76 feet) Saturated, medium dense, no odor. Primarily medium fine sand to 0.5 mm and ~35% silt and clay. The sand is subangular to rounded. The fines have medium plasticity and low toughness, are brown, and do not react to HCl.

SANDY LEAN CLAY (76-76.75 feet) 80 Moist, hard, no odor. Primarily silt and clay with ~40% fine sand to 0.5 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are light olive brown (2.5Y 5/4), and do not react to HCl.

WELL-GRADED SAND (76.75-80 feet) Saturated, loose, no odor. Primarily medium sand with ~5% gravel to 10 mm. The sand is subangular to subrounded, the gravel is subangular to rounded. SW From 79-79.2 feet 30% gravel to 25mm and 70% coarse to medium sand. CLAYEY GRAVEL (80-82 feet) Saturated, loose, no odor. Primarily gravel to 30 mm with ~25% coarse to medium sand and ~25% silt and clay. The sand is subangular to subrounded, the gravel is subangular to rounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl.

WELL-GRADED SAND with GRAVEL (82-85 feet) 4310 Moist, loose, no odor. Primarily coarse to medium sand with ~15% gravel to 20 mm and ~5% silt and clay. The sand is subangular to 1/31/06 subrounded, the gravel is angular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 85 WELL-GRADED SAND (85-89 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~10% gravel to 25 mm. The sand is angular to subrounded, the gravel is subrounded to rounded.

BORING LOG

B/W-14 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 **8** of **16** Soil Boring Monitoring Well Sheet Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 4305 SW WELL-GRADED SAND with GRAVEL (89-90 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~30% fine gravel to 15 mm and ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular to rounded. The fines are 90 nonplastic, are brown, and do not react to HCl. Thin clay seams at ~89.25 and 89.5 feet. WELL-GRADED SAND with GRAVEL (90-91.25 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~20% gravel to 20 mm. The sand and gravel are subangular to subrounded WELL-GRADED SAND with GRAVEL (91.25-94 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~30% gravel to 25 mm and trace silt and clay. The sand and gravel are subangular B/W-14 @ 90 - 95 Ft to subrounded. The fines are nonplastic, are brown, and do not react to HCl. 4300 WELL-GRADED SAND with GRAVEL (94-97.5 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~20% gravel to 30 mm and ~5% silt and clay. The sand is angular to rounded, the gravel is angular to subrounded. The fines are nonplastic, are 95 dark brown, and do not react to HCl. YERINGTON.GPJ BRN&CALD.GDT 1/31/06 WELL-GRADED SAND with GRAVEL (97.5-98.5 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~40% fine gravel to 15 mm and ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are dark Agray, and do not react to HCl. SILTY SAND with GRAVEL (98.5-100 feet) Moist, very dense, no odor. 4295 Primarily coarse to medium sand with ~20% gravel to 25 mm and ~40% silt and clay. The sand and gravel are angular to subrounded. The fines have low plasticity and toughness, are dark gray, and do not react to HCl. WELL-GRADED GRAVEL with SAND (100-101 feet) SONIC METHOD LOG Saturated, loose, no odor. Primarily gravel to 60 mm with ~25% coarse to medium sand and $\sim 10\%$ silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl WELL-GRADED SAND with SILT and GRAVEL (101-105 feet)

BORING LOG

B/W-14 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 of <u>1</u>6 \mathbf{X} Monitoring Well Soil Boring Sheet Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Saturated, loose, no odor. Primarily coarse to medium sand with ~20% gravel to 20 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are light brown, and do not react to HCl. 4290 105 WELL-GRADED SAND (105-106.75 feet) Saturated, loose, no odor. Primarily medium sand with ~5% gravel to 40 mm and ~5% silt and clay. The sand is subangular to subrounded, the gravel is subrounded to rounded. The fines are nonplastic, are light brown, and do not react to HCl. WELL-GRADED GRAVEL with SAND (106.75-107.5 Saturated, loose, no odor. Primarily gravel to 35 mm with ~25% coarse to medium sand and ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are light brown, and do not react to HCl. WELL-GRADED SAND with GRAVEL (107.5-108 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~15% gravel to 25 mm and ~5% silt and clay. The sand is subangular to subrounded, the gravel is subrounded to rounded. The fines 107 - 112 Ft 4285 are nonplastic, are light brown, and do not react to HCl. WELL-GRADED GRAVEL with SAND (108-108.5 feet) Saturated, loose, no odor. Primarily gravel to 70 mm with ~35% coarse to medium sand B/W-14@ and ~5% silt and clay. The sand is subangular to 110 subrounded, the gravel is subrounded to rounded. The fines are nonplastic, are light brown, and do not react to HCl. WELL-GRADED SAND (108.5-109.5 feet) Saturated, loose, no odor. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Primarily coarse to medium sand with ~10% fine gravel to 10 mm and trace silt and clay. The sand is angular to rounded, GW the gravel is subangular to subrounded. The fines are nonplastic, are light brown, and do not react to HCl. WELL-GRADED SAND (109.5-111 feet) Saturated, loose, no odor. Primarily medium sand with ~5% fine gravel to 15 mm and trace silt and clay. The sand is angular to subrounded, the gravel is subangular to rounded. The fines are nonplastic, are light brown, and do not react to HCl.

WELL-GRADED GRAVEL with SAND (111-112 feet) Saturated, loose, no odor. Primarily gravel to 25 mm with ~45% coarse to medium sand and ~5% silt and clay. The sand is subangular to subrounded, the gravel is subangular to rounded. The fines are nonplastic, are light brown, and do not react to HCl. **WELL-GRADED GRAVEL with SAND** (112-115.5 feet) Saturated, loose, no odor. 4280 Primarily gravel to 50 mm with ~30% coarse to medium sand and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular to rounded. The fines

BORING LOG

B/W-14 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>10</u> of <u>16</u> \mathbf{X} Monitoring Well Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well are nonplastic, are light brown, and do not react to HCl. 115 SP- POORLY GRADED SAND with SILT and GRAVEL Saturated, loose, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. **POORLY GRADED SAND with SILT** (117-118.5 feet) Saturated, loose, no odor. SM Primarily medium to fine sand with trace coarse sand to 3 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are light brown, and do not react to HCl. SM **SILTY SAND** (118.5-120.5 feet) Saturated, loose, no odor. 4275 Primarily medium to fine sand with ~5% fine gravel to 15 mm and ~20% silt and clay. The sand and gravel are angular to subrounded. The fines are nonplastic, are light brown, and do not react to HCl. 120 **SANDY LEAN CLAY** (120.5-120.75 feet) Moist, hard, no odor. Primarily silt and clay with ~35% fine sand to 0.5 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl WELL-GRADED SAND with GRAVEL (120.75-121.25 CL Saturated, loose, no odor. Primarily coarse to medium sand with ~40% gravel to 30 mm and ~10% silt and clay. The sand and gravel are angular to subrounded. The fines are nonplastic, are light brown, and do not react to HCl. WELL-GRADED SAND (121.25-122 feet) Saturated, loose, no odor. Primarily medium to fine sand with trace fine gravel to 15 mm and ~15% silt and clay. The sand is subangular to BRN&CALD.GDT 1/31/06 subrounded, the gravel is angular. The fines are nonplastic, are light brown, and do not react to HCl.

SANDY LEAN CLAY (122-122.5 feet) 4270 Moist, stiff, no odor. Primarily silt and clay with ~30% fine sand (<0.5 mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness, are light olive brown (2.5Y 5/3), 25 and do not react to HCl. POORLY GRADED SAND (122.5-123 feet) SONIC METHOD LOG YERINGTON.GPJ Saturated, medium dense, no odor. Primarily medium to fine sand to 0.5 mm with ~5% silt and clay. The sand is subangular to rounded. The fines are nonplastic, are light brown, and do not react to HCl.

WELL-GRADED GRAVEL with SILT and SAND (123-124 feet) Saturated, loose, no odor. Primarily gravel to 35 mm with ~25% coarse to medium sand and ~10% silt and clay. The sand is subangular to subrounded, the gravel angular to subrounded. The fines are nonplastic, are light brown, and do not react to HCl WELL-GRADED SAND with GRAVEL (124-130 feet) Saturated, loose, no odor.

BORING LOG

B/W-14 Yerington Groundwater Investigation Project Name: Well Number: 121243.021 Sheet <u>11</u> of <u>16</u> ${f X}$ Soil Boring Monitoring Well Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily coarse to medium sand with ~15% gravel to 50 mm and ~5% silt and clay. The sand is subangular to subrounded, the gravel is subrounded. The fines are nonplastic, are light brown, and do not react to HCl. 4265 130 GW WELL-GRADED GRAVEL with SAND (130-133.25 feet) Saturated, loose, no odor.

Primarily gravel to 70 mm with ~25% coarse to medium sand and ~5% silt and clay. The sand is angular to subangular, the gravel is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. **LEAN CLAY** (133.25-134 feet) Dry, hard, no odor. Primarily silt and clay with $\sim 10\%$ fine sand (< 0.5 mm). The fines have medium plasticity and toughness, are light yellowish brown (2.5Y 6/3), and do not react to HCl. **POORLY GRADED SAND with SILT** (134-136 feet) Saturated, medium dense, no odor. Primarily fine sand (<0.5 mm) with $\sim10\%$ silt and clay. The sand is subangular to subrounded. The fines have low 135 plasticity, are brown, and do not react to HCl. POORLY GRADED SAND (136-138.75 feet) Saturated, medium dense, no odor. Primarily fine sand (<0.5 mm) with ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 are brown, and do not react to HCl. WELL-GRADED SAND (138.75-141.75 feet) SW Saturated, loose, no odor. Primarily medium sand with ~5% fine gravel to 15 mm and ~5% silt and clay. The sand is angular to subrounded, the gravel is angular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. 140

BORING LOG

B/W-14 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>12</u> of <u>16</u> \mathbf{X} Monitoring Well Soil Boring Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SW WELL-GRADED SAND with GRAVEL (141.75-143.5 @ 140 - 145 Ft feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~50% gravel to 35 mm and trace silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are dark brown, and B/W-14 do not react to HCl. **SANDY LEAN CLAY** (143.5-143.7 feet) Moist, stiff, no odor. Primarily silt and clay with ~40% medium to fine sand and trace coarse sand to 3 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are grayish brown (2.5YR 5/2), and do not react to HCl WELL-GRADED SAND (143.7-144.8 feet) SP 145 Saturated, loose, no odor. Primarily coarse to medium sand with ~20% fine sand, ~10% gravel to 20 mm, and ~5% silt and clay. The sand is angular to subrounded, the gravel is angular to subrounded. The fines are nonplastic, are dark brown, and do not react to HCl.

INTERBEDDED POORLY-GRADED SAND and SANDY **LEAN CLAY** (144.8-147.5 feet) Beds are 0.1 to 0.4 feet thick. POORLY-GRADED SAND Saturated, medium dense, no odor. Primarily fine sand (<0.5 mm) with $\sim20\%$ silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown (10YR 4/3), and do not react to HCl. LEAN CLAY with SAND Moist, hard, no odor. Primarily silt and clay with ~20% fine sand (<0.5 mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. Some iron oxide and organic staining POORLY GRADED SAND (147.5-148.5 feet) Saturated, medium dense, no odor. Primarily fine sand (<0.5 mm) with ~10% silt and clay. The 4245 sand is subangular to subrounded. The fines are nonplastic, are brown (10YR 5/3), and do not react to HCl INTERBEDDED POORLY-GRADED SAND and SANDY
LEAN CLAY (144.8-147.5 feet)
POORLY-GRADED SAND 1/31/06 50 Saturated, medium dense, no odor. Primarily fine sand (<0.5 mm) with ~20% silt and clay. The SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT sand is subangular to subrounded. The fines are nonplastic, are brown (10YR 4/3), and do not react to HCl. LEAN CLAY with SAND Moist, hard, no odor. Primarily silt and clay with ~20% fine sand (<0.5 mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl.
POORLY GRADED SAND (149.75-150 feet) Saturated, medium dense, no odor. Primarily fine sand (<0.5 mm) with $\sim10\%$ silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown (10YR 5/3), and do not react to HCl. LEAN CLAY (150-152 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~5% fine sand (<0.5 mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness, are light brownish gray (2.5Y 6/2), and do not react to HCl.

BORING LOG

B/W-14 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>13</u> of <u>16</u> \mathbf{X} Soil Boring Monitoring Well Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 4240 CLAYEY SAND (152-155 feet) Saturated, medium dense, no odor. Primarily fine sand (<0.5 mm) with $\sim35\%$ silt and clay. The plasticity and low toughness, are brown, and do not react to HCl. 155 POORLY GRADED SAND (155-156 feet) SP Saturated, loose, no odor. Completely medium to fine sand to 1 mm. The sand is subangular to subrounded. WELL-GRADED SAND (156-161.5 feet) Saturated, loose, no odor. Primarily medium sand with ~5% gravel to 40 mm, and trace silt and clay. The sand is subangular to subrounded, the gravel is subangular to rounded. The fines are nonplastic, are @ 155 - 160 Ft light brown, and do not react to HCl. B/W-14 4235 160 WELL-GRADED SAND (161.5-162 feet) Saturated, loose, no odor. Primarily medium to fine sand with ~5% fine gravel to 10 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular. The fines are nonplastic, are light brown, and do not react to HCl. WELL-GRADED SAND (162-162.5 feet) Saturated, loose, no odor. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Primarily medium to fine sand with ~10% gravel to 25 mm. The sand is subangular to subrounded, the gravel is angular. WELL-GRADED SAND (162.5-165 feet) Saturated, loose, no odor. Primarily medium to fine sand with ~5% gravel to 30 mm 4230 and ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are light brown, and do not react to HCl. 65 CL **LEAN CLAY with SAND** (165-166 feet) Moist, stiff, no odor. Primarily silt and clay with ~20% fine sand (<0.5 mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. Some iron oxide staining.

SILTY SAND (166-167.5 feet) SM Saturated, loose, no odor. Primarily fine sand (<0.5 mm) and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic,

BORING LOG

B/W-14 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>14</u> of <u>16</u> \mathbf{X} Monitoring Well Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well are yellowish brown (10YR 5/4), and do not react to HCl. Significant iron oxide staining. **LEAN CLAY** (150-152 feet) Moist to saturated, firm to stiff, no odor. Primarily silt and clay with ~30% medium to fine sand and ~5% gravel to 30 mm. The sand is angular to subrounded, the gravel is subrounded to rounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. CLAYEY SAND with GRAVEL (169.25-170 feet) Moist to saturated, medium dense, no odor. Primarily medium sand with ~40% gravel to 40 mm, and ~20% silt and clay. The sand is subangular to subrounded, 170 the gravel is subrounded to rounded. The fines have medium plasticity and toughness, are dark brown, and do not react to WELL-GRADED SAND with GRAVEL (170-171 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~50% gravel to 40 mm and trace silt and clay. The sand is subangular to subrounded, the gravel is subrounded to rounded. The fines are nonplastic, are dark brown, and do not react to HCl WELL-GRADED GRAVEL with SAND (171-173.5 feet) Saturated, loose, no odor. Primarily gravel to 40 mm with $\sim 30\%$ sand and $\sim 10\%$ silt and clay. The sand is subangular to rounded, the gravel is subrounded to rounded. The fines are nonplastic, are brown, and do not react to HCl. WELL-GRADED SAND with GRAVEL (173.5-174 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~20% gravel to 30 4220 GW mm. The sand is subangular to rounded, the gravel is subangular to subrounded. The fines are nonplastic, are light brown, and do not react to HCl. WELL-GRADED GRAVEL with SAND (174-176 feet) Saturated, loose, no odor. 175 178 Primarily gravel to 60 mm with ~25% sand and ~5% silt and clay. The sand is angular to subrounded, the gravel is subrounded to rounded. The fines are nonplastic, are grayish brown, and do not react to HCl. 6 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 WELL-GRADED GRAVEL with SAND (176-177.5 feet) GW Saturated, loose, no odor. Primarily gravel to 45 mm with ~30% coarse to medium sand and ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are grayish brown, and do not react to HCl. WELL-GRADED SAND with GRAVEL (177.5-178 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~35% gravel to 40 mm. The sand is subangular to subrounded, the gravel is subangular to rounded. The fines are nonplastic, are brown, and do not react to HCl.

CLAYEY SAND with GRAVEL (178-180 feet) Dry to moist, dense, no odor. 4215 Primarily coarse to medium sand with ~35% gravel to 75 mm, and ~25% silt and clay. The sand is subangular to subrounded, the gravel is angular to subrounded. The fines have medium plasticity and low to medium toughness, are brownish gray, and do not react to HCl.

BORING LOG

B/W-14 **Yerington Groundwater Investigation** Project Name: Well Number: 121243.021 Sheet <u>15</u> of <u>16</u> \mathbf{X} Soil Boring Monitoring Well Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well WELL-GRADED GRAVEL with SAND (180-181 feet) Saturated, loose, no odor. Primarily gravel to 30 mm with ~20% sand and ~5% silt and clay. The sand is subangular to subrounded, the gravel is subangular to rounded. The fines are nonplastic, are brown, and do not react to HCl SP POORLY GRADED SAND (181-183.5 feet) Saturated, loose, no odor. Primarily medium to fine sand trace coarse sand to 3 mm. The sand is subangular to subrounded. WELL-GRADED GRAVEL with SAND (183.5-189.5 feet) Saturated, loose, no odor. 4210 Primarily gravel to 40 mm with ~35% coarse to medium sand and ~5% silt and clay. The sand is angular to subrounded, the gravel is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. 185 4205 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 WELL-GRADED SAND with GRAVEL (189.5-190.25 feet) 190 Saturated, loose, no odor. Primarily coarse to medium sand with ~50% gravel to 30 mm and trace silt and clay. The sand is subangular to subrounded, the gravel is subrounded to rounded. The fines are nonplastic, are brown, and do not react to HCl.

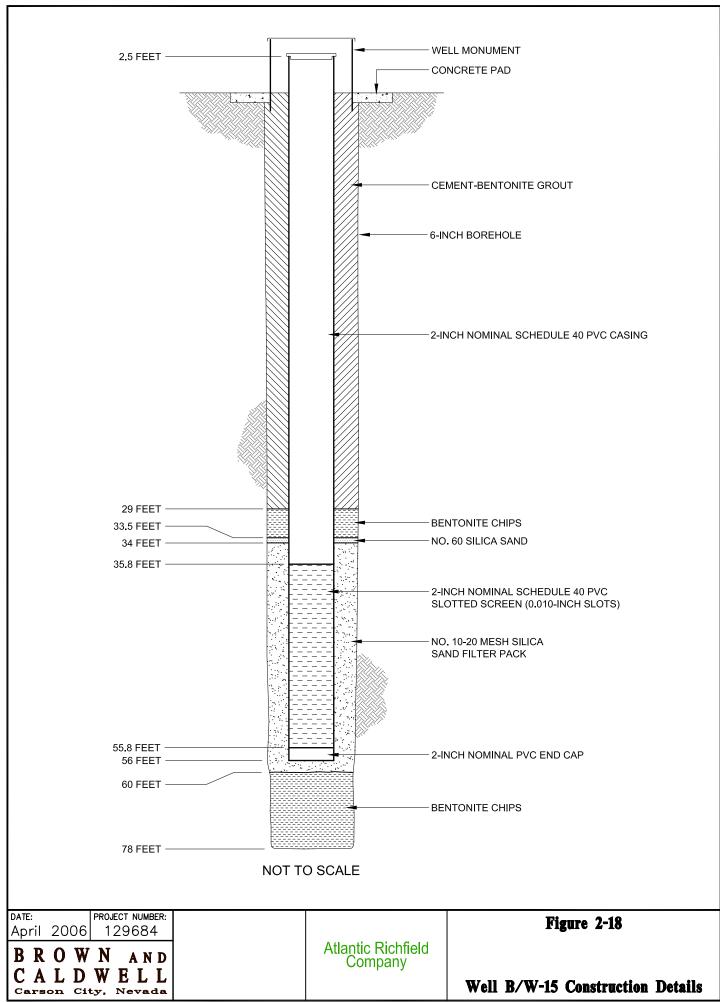
WELL-GRADED GRAVEL with SAND (190.25-191 feet) SP Saturated, loose, no odor. Primarily gravel to 30 mm with ~20% sand and ~5% silt and clay. The sand is subangular to subrounded, the gravel is subangular to rounded. The fines are nonplastic, are brown, and do not react to HCl.

POORLY GRADED SAND (191-193.75 feet) 190 - 195 Ft Saturated, loose, no odor. Completely medium to fine sand to 1 mm. The sand is angular to subangular.

BORING LOG

B/W-14 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>16</u> of <u>16</u> ${f X}$ Soil Boring Monitoring Well Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well **SILTY SAND** (193.75-194.5 feet) 4200 Saturated, loose, no odor. Primarily medium to fine sand with trace fine gravel to 10 mm and ~20% silt and clay. The sand and gravel are SW- subangular to subrounded. The fines are nonplastic, are light brown, and do not react to HCl.
WELL-GRADED SAND (194.5-195 feet) SM 195 Saturated, loose, no odor. Primarily coarse to medium sand with ~15% fine sand, ~10% SW fine gravel to 15 mm, and ~10% silt and clay. The sand is SW- subangular to subrounded, the gravel is subangular to angular. The fines are nonplastic, are brown, and do not react to HCl. <u>SILTY SAND</u> (195-195.5 feet) Moist to saturated, medium dense, no odor. Primarily medium to fine sand with trace fine gravel to 10 mm and ~25% silt and clay. The sand is subangular to subrounded, the gravel is angular. The fines are nonplastic, are brown, and do not react to HCl.

SW- WELL-GRADED SAND with SILT and GRAVEL
(195.5-196.75 feet) Saturated, loose, no odor. Primarily medium to fine sand with ~20% fine gravel to 12 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl **SILTY SAND** (196.75-197.25 feet) Saturated, loose, no odor. 4195 Primarily medium to fine sand with ~5% fine gravel to 15 mm and ~25% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. **WELL-GRADED SAND** (197.25-199.25 feet) Saturated, medium dense, no odor. 200 Primarily medium to fine sand with ~5% fine gravel to 10 mm and ~10% silt and clay. The sand is angular to subangular, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. **SILTY SAND** (199.25-200 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace coarse sand to 4 mm and ~25% silt and clay. The sand is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06



Project Name: Yerington Groundwater Investigation							Well Number:								
Soil	Soil Boring Monitoring Well X Project Number														
Borin	ng Loca	ation:	Northeast of Pit Lake, east	of highway near rive	r	Е	Eleva	ation:	438	4. 3	feet amsl			330160.2 1544187.5	5
Drilli	ing Co	ntract	or: WDC	Driller: B. Zamow				Started	: 7	/19	9/05		inished:	7/22/05	
Drilli	ing Equ	ıipme	ent: Gus Pech GP24-400RS, l	Diedrich Sonic Head		Ι	www	h: (feet)	200000	8.0)	Water (feet)	Depth:	5' / 8.75'	*****
Samı	oling N	letho	d: Core Barrel	Borehole Diameter: 6"				Diamet Material			inch PVC			DEDEDEDEDEDEDEDEDE	DODOC
Drilli	ing Me	thod:	Sonic, utilized 6" casing an	d a 4.5" core barrel				ened Int Well De			35.8-55.8	ft., bot	tom at	56 ft.	
Well	Well Seal: Bentontite and Cement								0.02	20'	Filter Ma	terial:	#10-20	Silica San	ıd
Logg	Logged By: C. Gardner							Development Method: Swabbed, bailed, pumped							
	st)					L	_	raphic I		\Box					
Depth (feet)	Elevation (feet)	up Sy	F		Ž	sample No.	<u>e</u>	ğ							
epth	vatio	Gro	Description		2	amb	Sample	Lithology	Well				Remark	is .	
	Ele	USCS Group Symbol			ľ	"	01	ן ב							
		SM	SILTY SAND with GRAVEL (0-2 Dry, medium dense, no odor.	feet)					3	\$	Description on ASTM N	s of drill Aethod I	led cuttir D-2488 (igs based the	
_			Primarily sand with ~15% gravel to and clay. The sand is subangular to	subrounded, the gravel	4		ŀ				visual-manu determination	ial proce	edure), g	rain-size	
-			is angular to subangular. The fines a brown, and have a strong reaction to	re nonplastic, are light HCl.	4		ŀ			%	based on the System. Mu	nsell co	lors desc	ribed wet.	
-		CL	SANDY LEAN CLAY (2-6 feet)								Horizontal s the Nevada	State Pl	ane syste	pressed in em,	
-			Moist, firm, no odor. Primarily silt and clay with ~35% me	edium to fine sand and	1					K	Nevada We	est zone, in feet.			
-			trace coarse sand to 3 mm. The sand subrounded. The fines have medium	plasticity and	7						Sharp conta gradational	cts indic	cated by	solid lines,	
_			toughness, are dark grayish brown (react to HCl.	10YR 4/2), and do not]				3	\S	dashed line.			•	
_	4380				4					8	All depths a unless state	re belov d otherw	v land su vise.	rface	
5 - 5	<u> </u>				4					$\langle \! \langle \! $					
-					\exists					$\langle \rangle$	WELL DES Screened In	terval: 3	5.8-55.8		
-		SW	WELL-GRADED SAND (6-15 feet)				<i>/////</i>			Bottom of s Cement Gro	-			
			Saturated, loose, no odor. Primarily medium to fine sand with and trace silt and clay. The sand is s	-10% gravel to 30 mm							Bentonite C Filter Pack:	hips: 29	-33.5 fee	et. M foot	
-			subrounded, the gravel is subrounded are nonplastic, and do not react to He	d to rounded. The fines						Š	#10-20 San Bentonite C	d 34-60	feet.		
_			are nonplastic, and do not react to 11	.	4		ķ		3	\S	Depth to W	_			
3					4					8	Top of PVC	Casing			
-	4375				+					8	amsl. PVC Stick-				
10					1					$\langle \! \rangle$	surface.	•			
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BORING LOG

B/W-15 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 2 Soil Boring Monitoring Well Sheet of Project Number: Graphic Log USCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well WELL-GRADED SAND (15-16.5 feet) Saturated, loose, no odor. Primarily medium to fine sand with ~10% gravel to 25 mm and trace silt and clay. The sand is subangular to subrounded, the gravel is subrounded to rounded. The fines are nonplastic, are light grayish brown, and do not react to GW WELL-GRADED GRAVEL with SAND (16.5-17.5 feet) Saturated, loose, no odor. Primarily fine gravel to 30 mm with ~30% coarse to medium sand and trace silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are light grayish brown, and do not react to HCl.

WELL-GRADED SAND (17.5-27.5 feet) Saturated, loose, no odor. 4365 Primarily coarse to medium sand with ~5% fine gravel to 15 mm and trace silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are light 20 grayish brown, and do not react to HCl. Interval has a gravel layer from 23.75 to 24.25 feet. This layer is 50% gravel to 25 mm and 50% sand. The sand and gravel are subangular to rounded. 4360 25 WELL-GRADED SAND with GRAVEL (27.5-33 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~25% gravel to 30 mm and ~5% silt and clay. The sand and gravel are subangular SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 to subrounded. The fines are nonplastic, are light grayish brown, and do not react to HCl. 4355 Interval has a gravel layer from 30 to 30.5 feet. This layer is 40% gravel to 35 mm and 60% sand. The sand and gravel are subangular to rounded. 30 B/W-15 WELL-GRADED SAND with GRAVEL (33-35 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~40% gravel to 33 mm and ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are light grayish

BORING LOG

B/W-15 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 <u>3</u> of . Monitoring Well Soil Boring Sheet Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well brown, and do not react to HCl. 35 WELL-GRADED SAND with SILT and GRAVEL SM (35-36.75 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~15% fine sand, ~40% gravel to 45 mm, and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. WELL-GRADED SAND (36.75-39.25 feet) Saturated, loose, no odor. Primarily medium to fine sand with ~5% gravel to 40 mm and trace silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. 4345 **SANDY SILT** (39.25-42.5 feet) MLSaturated, stiff, no odor. Primarily silt and clay with $\sim 30\%$ medium to fine sand to 2 40 mm. The sand is subangular to subrounded. The fines have low plasticity and toughness, are light grayish brown (10YR 5/2), and do not react to HCl. WELL-GRADED SAND (42.5-45.5 feet) Saturated, loose, no odor. Primarily medium to fine sand with trace fine gravel to 15 mm and trace silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are <u>43</u>40 brown, and do not react to HCl. 45 **LEAN CLAY with SAND** (45.5-46.5 feet) Moist, stiff, no odor. Primarily silt and clay with ~15% fine sand and trace medium sand to 1.5 mm. The sand is subangular to subrounded. The fines have medium plasticity and low toughness and do not react to HCl. WELL-GRADED SAND (46.5-47.5 feet) Saturated, loose, no odor. Primarily medium to fine sand with trace coarse sand to 3.5 mm and trace silt and clay. The sand is subangular to SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 subrounded. The fines are nonplastic, are brown, and do not WELL-GRADED GRAVEL with SAND (47.5-54.5 feet) 4335 Saturated, loose, no odor. Primarily gravel to 45 mm with ~30% coarse to medium sand and trace silt and clay. The sand is subangular to subrounded, the gravel is subangular to rounded. The fines are nonplastic, are brown, and do not react to HCl.

BORING LOG

B/W-15 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 **4**_ of _ \mathbf{X} Monitoring Well Soil Boring Sheet Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SILTY SAND with GRAVEL (54.5-55 feet) Moist to saturated, medium dense, no odor. 55 SW Primarily medium to fine sand with ~20% coarse sand, ~30% gravel to 20 mm, and ~25% silt and clay. The sand and GW gravel are subangular to subrounded. The have low plasticity and toughness, are brown, and do not react to HCl.

WELL-GRADED SAND (55-55.5 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~10% gravel to 30 mm and ~5% silt and clay. The sand and gravel are subangular SW to subrounded. The fines are nonplastic, are brown, and do not react to HCl WELL-GRADED GRAVEL with SAND (55.5-56 feet) CL Saturated, loose, no odor. Primarily gravel to 30 mm with ~15% sand and ~5% silt and clay. The sand is subangular to subrounded, the gravel is 4325 subangular to rounded. The fines are nonplastic, and do not react to HCl WELL-GRADED SAND with GRAVEL (56-57.25 feet) CL Saturated, loose, no odor. 60 Primarily medium to fine sand with ~40% gravel to 40 mm and ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines SP-SM are nonplastic and do not react to HCl. WELL-GRADED SAND (57.25-58 feet) Saturated, medium dense, no odor. 60 - 65 Ft Primarily medium to fine sand with ~5% fine gravel to 10 mm and ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular. The fines are nonplastic, are light brown, and do not react to HCl. **LEAN CLAY with SAND** (58-59.5 feet) B/W-15@ Moist, stiff, no odor. Primarily silt and clay with ~20% medium to fine sand to 2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and 4320 do not react to HCl. **SANDY LEAN CLAY** (59.5-60.75 feet) Moist, firm, no odor. 65 Primarily silt and clay with ~20% fine sand, ~15% coarse to medium sand, and trace fine gravel to 15 mm. The sand is subangular to subrounded, the gravel is subrounded. The fines have medium plasticity and low toughness, are brown (10YR 4/3), and do not react to HCl POORLY-GRADED SAND with SILT (60.75-63.25 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace fine gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl.

WEATHERED GRANITE (63.25-78 feet) SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Dry, very dense, no odor. Weathered granite with ~30% fines. The granite is quartz dominated with white orthoclase. The fines have medium 4315 plasticity and tougness, are light gray (2.5Y 7/1), and do not react to HCl.

BORING LOG

Well Number: B/W-15 **Yerington Groundwater Investigation** Project Name: Sheet <u>5</u> of <u>5</u> 121243.021 Monitoring Well \mathbf{X} Soil Boring Project Number: USCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Well Remarks 4310 75 -SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06

Brown and Caldwell Carson City, Nevada

Proj	ect Na	me: Yer	rington	_				Project Number:									
Soil	Boring	: M	fonitoring Well: X Piezometer: Boring/Well Piezometer	Na	me	:_B/	W-16	Sheet 1 of 10									
Bori	ng Lo	ation: Nor	rth of mine site on north side of west end of Luzier Lane.					557432.8 Easting: 316975.2									
Drill	ing Co	ntractor:	Boart Longyear		G	op of F round	Surfa	Elevation: 4521.69 feet amsl ace Elevation: 4518.8 feet amsl									
Drill	ing Eq	uipment:G	GP24-300RS		D	ate Sta	ırted:	: 10/2/07 Date Finished: 10/6/07									
Drill	ing M	ethod: Son	nic, utilized 6" casing and a 4.5" core barrel			omplet epth:		Water 295 fbqs Depth: 191.54 fbmp									
Sam	pling N	Method:	Core Barrel Driller: R. Salois			_		WELL CONSTRUCTION									
Well	Well Seal: Bentonite and Cement Borehole Diameter:6							meter g: 2-inch Schedule 80 PVC									
Logg	Logged By: R. Banda Drilling Fluid: Water							Slot Size: 0.010 inch Filter Material: #10-20 Silica Sand									
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks									
-	-	SW-SM	Well-Graded Sand with Silt and Gravel (0 - 2.5) Dry, loose, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~15% silt and clay. The gravel is angular to subangular and the sand is angular to subangular to subrounded. The fines are nonplastic,have a light brown color, and have a strong reaction to HCl.			0.00		Description of drilled cuttings based on ASTM Method D-2488 (the visual-manual procedure), grain-size determinations and nomenclature									
5- 5-	4515—	SW-SM	Well-Graded Sand with Silt (2.5 - 6.5) Dry, loose, no odor. Primarily medium to fine sand with ∼5% gravel to 30 mm and ∼10% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic,have a light brown color, and do not react to HCI.					based on the Unified Soil Classification System. Horizontal Survey data is expressed in the Nevada State Plane system, Nevada West zone, in feet. Sharp contacts indicated by solid lines, gradational contacts indicated by dashed line.									
- - -	4510—	SW-SM	Well-Graded Sand with Silt and Gravel (6.5 - 10) Dry, medium dense, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI.					All depths are below land surface unless stated otherwise.									
10-	- 	SM	Silty Sand (10 - 12.5) Dry, medium dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI.					WELL DESIGN for B/W-16: PVC Stickup: 2.89 feet. Cement - Bentonite Grout: 0 - 181 feet Bentonite Chips: 181 - 186 feet No. 60 Silica Sand: 186 - 187 feet #10-20 Silica Sand Filter Pack: 187 - 213 feet									
15-	4505—	SW	Well-Graded Sand with Gravel (12.5 - 19.5) Dry, dense, no odor. Primarily medium to fine sand with ~30% gravel to 15 mm and ~5% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, have a light brown color, and have a strong reaction to HCI.					2-inch Nominal Schedule 80 PVC (0.010-inch) Slotted Screen: 190 - 210 feet Native Collapse: 220 - 295 feet									
- - -	4500-							Number of wells at this location: 1 Screen intervals for paired wells are labeled at the installed depths.									
20-	- 4495	ML SW-SM	Sandy Silt (19.5 - 21) Dry, medium dense, no odor. Primarily silt and clay with ~35% medium to fine sand to 7mm. The sand is angular to subangular. The fines are nonplastic,have an orange brown color, and have a strong reaction to HCI. Well-Graded Sand with Silt and Gravel (21 - 23) Dry, medium dense, no odor. Primarily coarse sand with ~30% gravel to 30 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic,have a light brown color, and have a strong reaction to HCI.														
	Ι.		Silty Sand (23 - 33.5)				S B	₹									

Proi		me: Yer					Pr	oject Number: 132025.002
	Boring		Ionitoring Well: X Piezometer: Boring/Well	l Na	ime	: _E		Sheet 2 of 10
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
30-	4490 —		Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 7 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, have a light brown color, and have a strong reaction to HCI. Some cobblestone sized pieces of volcanic tuff from 25 - 30					
35— -	4485	SM	Silty Sand (33.5 - 36.5) Dry, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 30 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI.					
- - 40- - -	- 4480 — - -	ML SM	Sandy Silt (36.5 - 38) Dry, very dense, no odor. Primarily silt and clay with ~30% medium to fine sand and ~5% gravel to 60 mm. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI. Silty Sand with Gravel (38 - 43.5) Dry, very dense, no odor. Primarily coarse to medium sand with ~15% gravel to 25 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI.					
45—	4475—	ML ML	Sandy Silt (43.5 - 46) Dry, very dense, no odor. Primarily silt and clay with ~40% coarse to fine sand and ~10% gravel to 10 mm. The sand and gravel are angular to subangular. The fines are nonplastic, have a light brown color, and have a strong reaction to HCl. Sandy Silt (46 - 48) Dry, medium dense, no odor. Primarily silt and clay with					
50-	- 4470 — -	ML	~20% medium to fine sand and ~5% gravel to 10 mm. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCl. Sandy Silt (48 - 50) Dry, very dense, no odor. Primarily silt and clay with ~40% coarse to fine sand and ~10% gravel to 10 mm. The sand and gravel are angular to subangular. The fines are nonplastic, have a light brown color, and have a strong reaction to HCl.					
- 55-	- 4465—		Silty Sand (50 - 55.5) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI.					
-	-	SM	Silty Sand (55.5 - 57) Dry, very dense, no odor. Primarily medium to fine sand with					

Proj	ect Na	me:Yen	ington		—			Project Number: 132023.002
Soil	Boring	; M	fonitoring Well: Piezometer: Boring/Wel	l Na	ame:	_B	/W-16	Sheet 3 of 10
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
60-	4460-	SM	~5% gravel to 10 mm and ~40% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCl. Silty Sand (57 - 59) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a weak to strong reaction to HCl. Silty Sand (59 - 69) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 40 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a weak reaction to HCl.		\$1000 CO.			
65-	4455—							
70-	4450	ML	Sandy Silt (69 - 72) Dry, dense, no odor. Primarily silt and clay with ~45% fine to medium sand and 5% coarse sand to 7 mm. The sand is angular to subangular. The fines are nonplastic, and have a strong reaction to HCI.					
-	4445—	ML SM	Sandy Silt (72 - 73.5) Dry, very dense, no odor. Primarily silt and clay with ~25% medium to fine sand and ~5% gravel to 10 mm. The sand and gravel are angular to subangular. The fines are nonplastic,have a light brown color, and have a strong reaction to HCI.		80000			
75-	-		Silty Sand (73.5 - 80) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 75 mm and ~40% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, have a brown color, and have a strong reaction to HCI.		200 00 00 00 00 00 00 00 00 00 00 00 00			
80-	-	SM	Silty Sand (80 - 81.5) Dry, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~30% silt and clay. The sand and		200800000			
85- 85-	4435—	SM	gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI. Sitty Sand (81.5 - 95) Dry, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 75 mm and ~40% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI.					

	Carson	City, Ne	evada	ВО	RING	L	0	G							
Proj	ect Nam	e: Yer	ington				_]	Project Number:	132025.	002			
Soil 1	Boring:	M	fonitoring Well: X	Piezometer:	Boring/W	lell Na	ime	:_B/	W-16			Sheet .	4_	of _10	T
Depth (fl)	Elevation (famsl)	USCS Group Symbol	N	Material Description		Sample Name	Sample Location	Lithology	Well Construction		Remarks				
90-	4430														
95-	4425—	SM	Silty Sand (95 - 10 Dry, very dense, n	o odor. Primarily medium to	o fine sand with										
- - - 100 -	4420-		and gravel are and	l mm and ~30% silt and clay gular to subangular. The fine we a strong reaction to HCI.	es are										
105–	4415	SM	~10% gravel to 15 and gravel are and	- 107) to odor. Primarily medium to inm and ~40% silt and clay gular to subangular. The fine light brown color, and have	y. The sand es are										
- - 110-	4410-	SM	~5% gravel to 15 r gravel are angular	115) to odor. Primarily medium to mand ~30% silt and diay, to subangular. The fines ar to strong reaction to HCI.	The sand and										
- 115-	4405—	SM	Silty Sand (115 -	o odor. Primarily medium to	o fine sand with			S							
- 120-	4400-	SM	gravel are angular and have a weak r Silty Sand with G Dry, very dense, n ~15% gravel to >1 and gravel are ang	ravel (117.5 - 128) no odor. Primarily medium to 00 mm and 25% silt and cla gular to subangular. The fine o not react to HCI. Cutting th	o fine sand with			6°.							

Proj	ect Na	me:	Yerington							Project Number: 132025.002							
Soil	Boring	:[Monitoring Well: X Piezometer: Boring/Well Name:						me: B/W-16 Sheet 5 of 10								
							_										
Depth (fl)	Elevation (famsl)	USCS Group Symbol		Material Description		Sample Name	Sample Location	Lithology	Well Construction	Remarks							
125-	4395—	CL	Sandy Dry, ver	Lean Clay (128 - 130) ry dense, no odor. Primarily silt and cla n to fine sand with ~5% gravel to 7 mn	ay with ∼20%												
130-	-	CL	and gra medium color, a Sandy l Dry, ver medium gravel a plasticit	n to fine sand with ~5% gravel to 7 mn ivel are angular to subangular. The fin n plasticity and toughness, have an ora ind do not react to HCl. Lean Clay (130 - 133) ry dense, no odor. Primarily silt and cla n to fine sand and ~5% gravel to 7 mm are angular to subangular. The fines h y reaction to HCl.	es have low to nge brown												
135-	4385—	SM	Silty Sa Dry, ver ~10% g and gra nonplas	and (133 - 137.5) ry dense, no odor. Primarily coarse to gravel to 10 mm and -40% silt and cla wel are angular to subangular. The fin stic,have a light brown color, and have n to HCI.	es are												
140-	4380-	CL	Dry, ver medium and gra nonplas	Lean Clay (137.5 - 154) ry dense, no odor. Primarily silt and cli n to fine sand and ~5% gravel to 10 m svel are angular to subangular. The fin stic to low plasticity and toughness, hav nd have a weak reaction to HCI.	m. The sand es are												
145-	4375—																
150-	4370-																
	-																

Proj	ect Na	me: Yer	rington				Project !	Number:132025.002					
Soil	Boring:	: M	fonitoring Well: X Piezometer: Boring/Wel	II Na	ame	: B/W	-16	Sheet _6_ of _10					
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks					
155-	4365 —	SM	Silty Sand (154 - 156) Dry, very dense, no odor. Primarily coarse to fine sand with ~5% gravel to 15 mm and ~40% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI. Silty Sand (156 - 166) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a weak to strong reaction to HCI.										
165-	4350	SW	Well-Graded Sand (166 - 169.5) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic,have a light brown color, and do not react to HCl. Sandy Lean Clay (169.5 - 173.5) Dry, very dense, no odor. Primarily silt and clay with ~25% medium to fine sand and ~10% gravel to 15 mm. The sand and gravel are angular to subangular. The fines are										
175-	4345	SW	nonplastic to low plasticity and toughness,have a light brown color, and have a weak to strong reaction to HCI. Well-Graded Sand (173.5 - 176) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~5% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded to rounded. The fines are nonplastic,have a brown color, and do not react to HCI.										
180-	4340	SW	Silty Sand (176 - 177.5) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic,have a light brown color, and do not react to HCI. Well-Graded Sand (177.5 - 184.5) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~10% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded to rounded. The fines are nonplastic,have a brown color, and do not react to HCI.										

Proj	ect Na	me: Ye	rington			-	P	roject Number: 132025.002
	Boring:		Monitoring Well: X Piezometer:	Boring/Well N	Vam	e: _B/	W-16	Sheet _7_ of _10_
					_			
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description		Sample Name Sample Location	Lithology	Well Construction	Remarks
-	4335					:::::		
185—	4330—	SC	Clayey Sand with Gravel (184.5 - 196) Moist to saturated, very dense, no odor. Primarily fine sand with ~20% gravel to 10 mm and ~35% clay. The gravel is angular to subangular and the angular to subangular to subrounded. The fines nonplastic, and do not react to HCI.	silt and e sand is				B/W-16S screened from 190 to 210 feet bgs (shallow). B/W-16S water level on 4/23/08 (191.54 ft bgs)
195-	1 1							
200-	4320	SC	Clayey Sand (196 - 205) Moist to saturated, very dense, no odor. Primaril fine sand with ~10% gravel to 10 mm and ~30% clay. The gravel is angular to subangular and the angular to subangular to sub	silt and e sand is				
210-	4310—	SC CL	Clayey Sand with Gravel (205 - 206) Saturated, very dense, no odor. Primarily mediur sand with -15% gravel to 15 mm and ~20% sit to The gravel is angular to subangular and the san to subangular to subrounded. The fines are nony have a weak to strong reaction to HCl. Sandy Lean Clay (206 - 214.5) Dry to moist, very dense, no odor. Primarily silt a ~25% medium to fine sand with ~10% gravel to gravel is angular to subangular and the sand is a subangular to subrounded. The fines are nonpla dark brown color, and have a weak reaction to H moist from 208 - 207 only.	and clay. d is angular plastic, and and clay with 10 mm. The angular to stic, have a				
215-	1 1	SM	Silty Sand (214.5 - 218.5)					

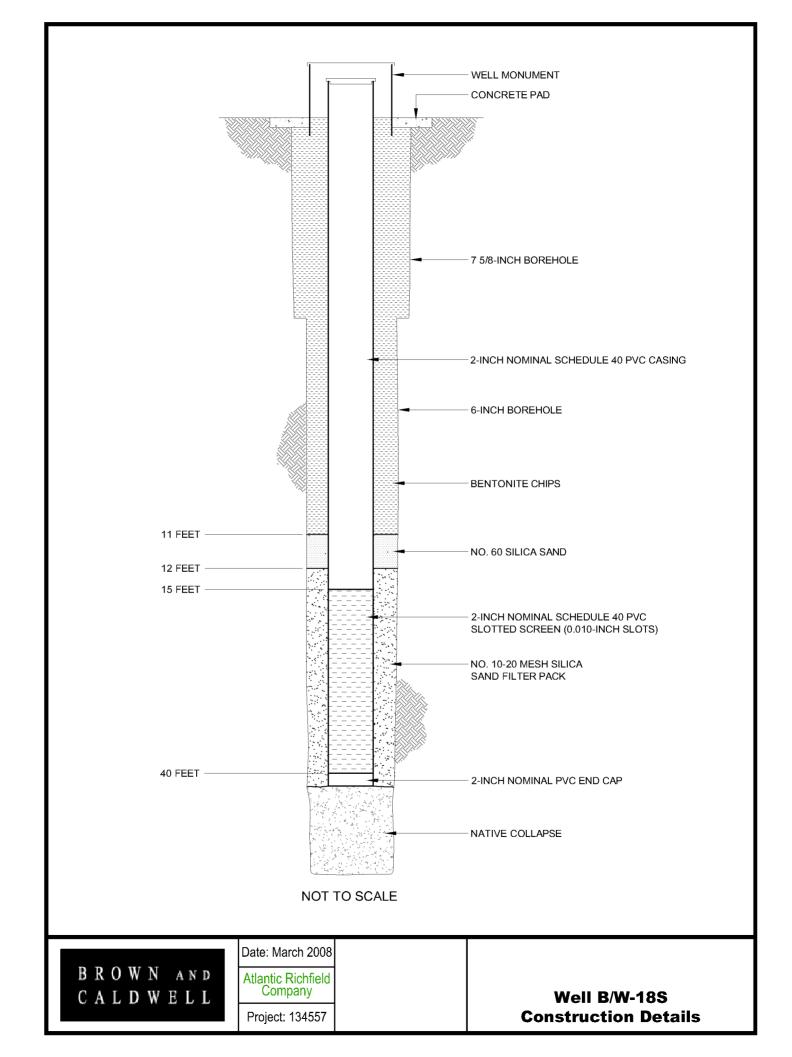
Project Name:Yerington						Project Number:132025.002							
Soil 1	Soil Boring. Monitoring Well: X Piezometer: Boring/Well Name									Sheet .	8	of .	10
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Ren	narks				
-			Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI.										
220- - - -	4300	SM	Silty Sand with Gravel (218.5 - 223.5) Moist, very dense, no odor. Primarily medium to fine sand with ~20% gravel to 10 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, have a dark brown color, and have no reaction to a weak reaction to HCI.										
- 225-	4295— - -	SM	Silty Sand (223.5 - 226) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI.										
-	-	SM	Silty Sand (226 - 229) Dry to moist, very dense, no odor. Primarily coarse to fine sand with gravel to 20 mm. The sand and gravel are angular to subangular. The fines are nonplastic, have a brown color, and have no reaction to a weak reaction to HCI.										
230-	4290—	SW	Well-Graded Sand with Gravel (229 - 230.5) Dry, very dense, no odor. Primarily fine sand (< 1/2 mm) with ~20% gravel to 10 mm and ~15% silt and clay. The			<u>(</u>							
-	4285—	SM	sand and gravel are subangular to subrounded. The fines are nonplastic, have a light brown color, and do not react to HCI. Silty Sand (230.5 - 237) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~25% silt and clay. The gravel is angular to subangular and the sand is angular to subangular to subrounded. The fines are nonplastic, have a brown color, and have no reaction to a weak reaction to HCI. There are 1/2" pieces of granite and tuff at ~234" bgs.										
235- - -	- - -												
-	4280—	SP	Poorly Graded Sand (237 - 239) Moist, very dense, no odor. Primarily medium to fine sand with no gravel and ~10% silt and clay. The sand is subangular to subrounded to rounded. The fines are nonplastic,have a brown color, and do not react to HCI.										
240-	-	SM	Silty Sand (239 - 240) Dry to moist, very dense, no odor. Primarily medium to fine										
	-	CL	sand with ~10% gravel to 10 mm and ~25% silt and clay. The gravel is angular to subangular and the sand is angular	\mathbb{H}									
_	-	SM	a brown color, and have no reaction to a weak reaction to HCI.										
- - 245—	- 4275—	SIVI	Sandy Lean Clay (240 - 240.5) Moist, very dense, no odor. Primarily silt and clay with ~35% medium to fine sand and very little gravel up to 7 mm. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.			0.0							
-	- -		Sandy Lean Clay with Gravel (240.5 - 241.5) Dry, very dense, no odor. Primarily silt and clay with ~15% coarse sand and ~15% gravel to 30 mm. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness have a dark brown color, and			, C.							

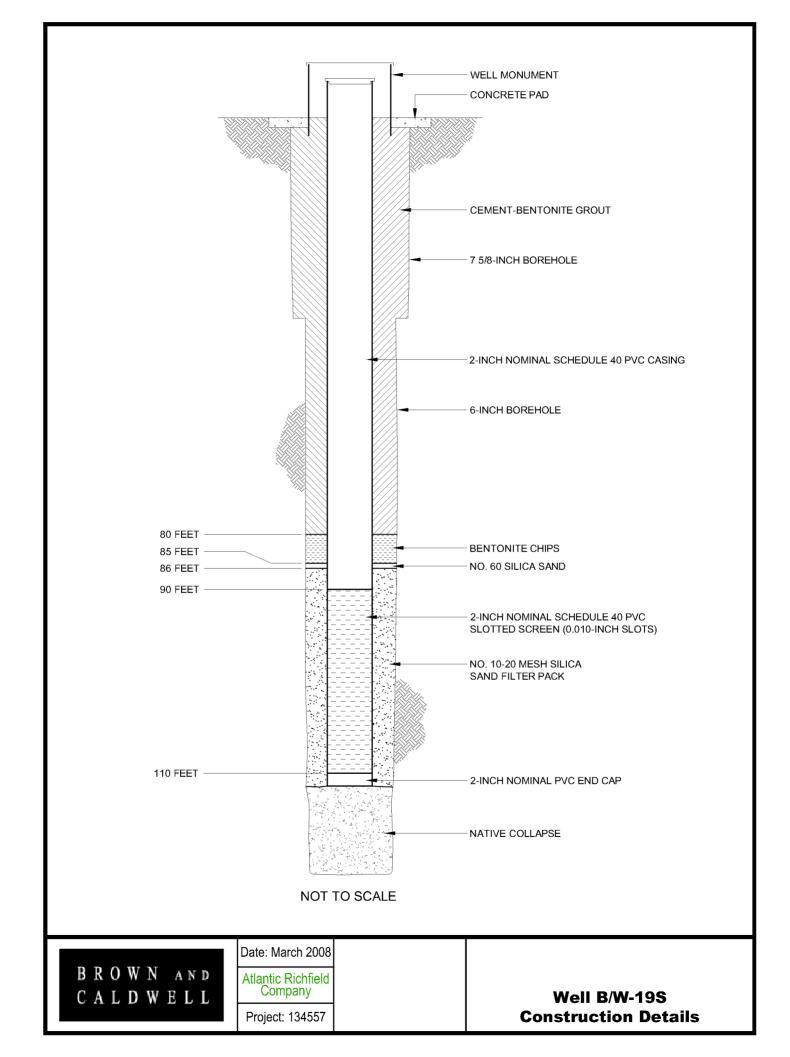
Carson City, Nevada

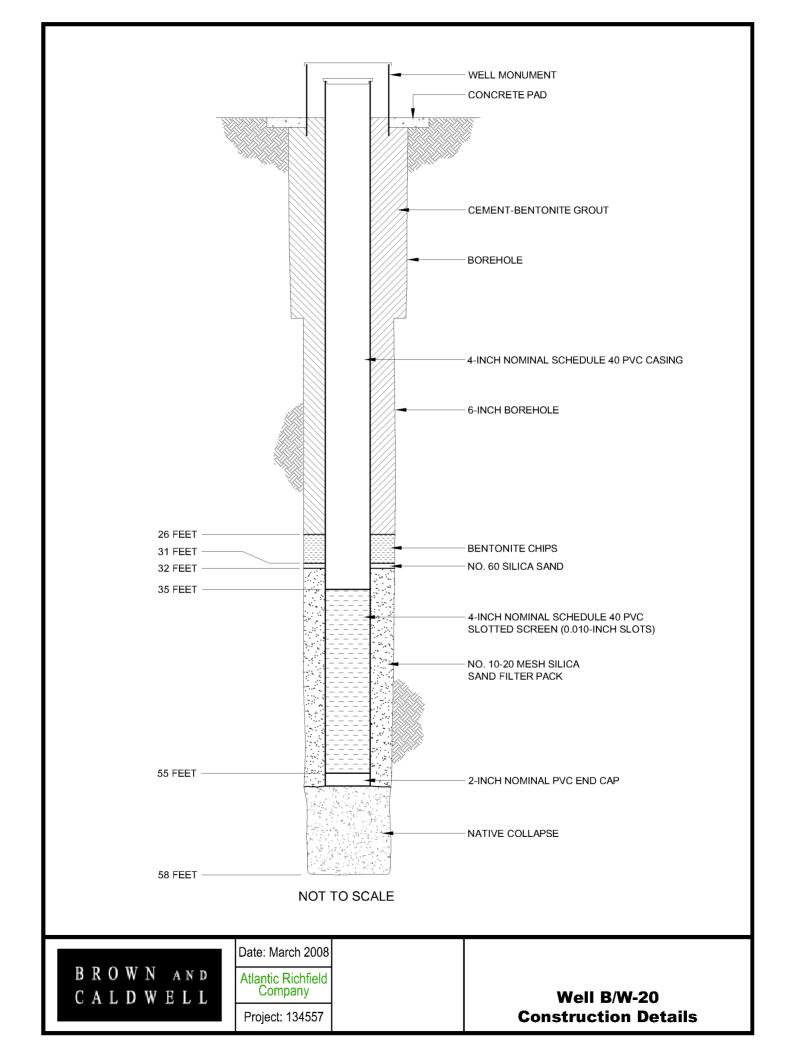
Proj	ect Na	me: Yer	ring	gton Project	Number: 132025.002
Soil	Boring	;	lo1	nitoring Well: X Piezometer: Boring/Well Name: B/W-16	Sheet 9 of 10
Depth (ft)	Elevation (famsl)	USCS Group Symbol		Sample Name Sample Location Lithology Well Construction	Remarks
	_		Γ	do not react to HCI. There are pieces of granite in the sample.	
250-	4270 — -	SM		Silty Sand with Gravel (241.5 - 249) Dry, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 30 mm and ~30% silt and clay. The gravel is angular to subangular and the sand is angular to subangular to subrounded. The fines are nonplastic,have a brown color, and have a weak to strong reaction to HCI.	
-	- -			Silty Sand with Gravel (249 - 251) Dry to moist, very dense, no odor. Primarily coarse to fine sand with ~20% gravel to 25 mm and ~40% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a weak reaction to HCI.	
255-	4265	CL		Weathered Granite (251 - 253) Dry, very dense, no odor. Possibly a boulder or bedrock with little clay matrix. Zone hasand white and pink color and has a weak reaction to HCI.	
	- 	SM		Sandy Lean Clay (253 - 256) Moist, soft, no odor. Primarily silt and clay with ~20% medium to fine sand with ~5% gravel. The sand and gravel are angular to subangular. The fines have low plasticity and	
-	-	CL		toughness, have a dark brown color, and have no reaction to a weak reaction to HCI. Silty Sand (256 - 257) Dry to moist, soft, no odor. Primarily medium to fine sand	
260-	4260-	SM	r	with ~5% gravel to ~10 mm and 30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic have a dark brown color, and have a weak reaction to HCl.	
-	-	Tuff SM	-	Sandy Lean Clay (257 - 259) Moist, soft, no odor. Primarily silt and clay with ~20% medium to fine sand with ~5% gravel. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, have a dark brown color, and have no reaction to a weak reaction to HCI.	
265-	4255—			Silty Sand with Gravel (259 - 260.5) Moist, dense, no odor. Primanily coarse sand with ~15% gravel to 15 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are inconplastic have a dark brown color, and have a weak reaction to HCI.	
-	- -	CL		Volcanic Tuff (260.5 - 261) Dry, dense, no odor. Zone has white color and a weak reaction to HCI.	
-	4250-	CL		Silty Sand with Gravel (261 - 265) Dry, very dense, no odor. Primarily medium to fine sand with ~15% gravel to ~30 mm and 30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, have a brown color, and have a strong reaction to HCI.	
270-	-			Sandy Lean Clay (265 - 267) Dry, very dense, no odor. Primarily silt and clay with ~30% medium to fine sand with ~5% gravel to 30 mm. The sand and gravel are angular to subangular. The fines have low plasticity and toughness,have a dark brown color, and do not react to HCI.	
-	4245—			Sandy Lean Clay (267 - 279.5) Dry to moist, very dense, no odor. Primarily silt and clay with ~25% medium to fine sand and ~10% gravel to 50 mm. The gravel is angular to subangular and the sand is angular to subangular to subrounded. The fines are nonplastic, have a dark brown color, and have no reaction to a weak reaction to	
275 – - -	-			HCI. Zone has large pieces of weathered granite throughout.	

Carson City, Nevada

Project Name: Yerington]	Project Number:	132025.0	02			
Soil 1	Boring	: M	fonitoring Well: X Piezometer: Boring/Wel	ame	: _B	W-16			Sheet	10	of _	0	
		-		_	_			Г					4
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction		Remarks				
-			V	Γ			33						T
285-		SM	Volcanic Tuff (279.5 - 280.5) Dry, dense, no odor. Zone has white color and a weak reaction to HCl. There is a weak reaction to the HCl. Silty Sand with Gravel (280.5 - 295) Dry, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 30 mm and ~30% silt and clay. The gravel is angular to subangular and the sand is angular to subangular to subrounded. The fines are nonplastic, have a light brown color, and have a weak to strong reaction to HCl. Zone has large pieces (up to 3-inches) of tuff.										
295- - -	4225— - - -		Bottom of Borehole at 295 feet below ground surface.										
300-	4220 — - - -												
305-	4215—												
310-	4210 — -												







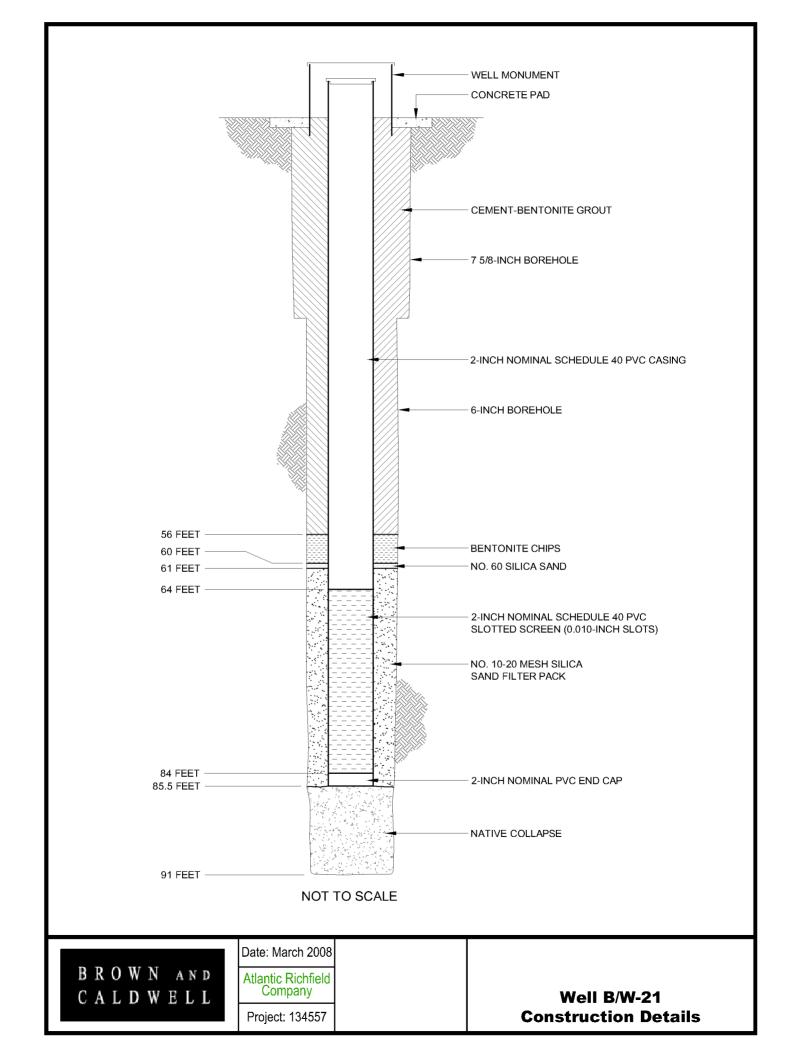
Brown and Caldwell BORING LOG

Project Name:Yerington Second Step Hydrogeologic Framework Assessment								P	roject Number:	132025
Soil F	Boring:	M	Ionitoring Well: X Piezomet	er: Boring/Well	ΙNι	ımbe	r: <u>B</u> /	W-20		Sheet <u>1</u> of <u>4</u>
			Highway 339 Boart Longyear	Driller: D. Reed		Top	thing: of PV	C Ele	vation: feet a	Easting: msl eet amsl
Drilli	ng Eq	uipment: (GP24-300RS	Borehole Diameter:8-inches	,	Dat	e Start	ed: 7/	13/07	Date Finished: 7/14/07
Drilli	ing Me	ethod: Son	ic	Drilling Fluid: Water		Cor Der	npleted	58	fbgs	Water Depth: fbmp
Samp	oling N	1ethod: (Core Barrel	_						STRUCTION
Well	Seal:	Bentonite	and Cement			Typ of V	e and l Vell Ca	Diam sing:	e ter 4-inch Scl	hedule 40 PVC
Logg	ed By:	R. Banda	a and C. Strauss			Slo	t Size:	0.020	inch Filter M	aterial: #10-20 Silica Sand
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material De	escription	Sample Name	Sample Location	Lithology	Well Construction		Remarks
-		SW-SM	Well-Graded Sand with Gr Dry, loose, no odor. Primar with ~15% gravel to 50 mm a The sand and gravel are sub The fines are nonplastic, and HCl.	rily mèdium to fine sand and ~30% silt and clay. angular to subrounded.					Method D-24 grain-size det based on the System.	f drilled cuttings based on ASTM 88 (the visual-manual procedure), terminations and nomenclature Unified Soil Classification
5		SM		and ~40% silt and clay. ular to subangular. The e a weak to strong reaction 7. Primarily fine sand (<					Nevada State zone, in feet. Sharp contact gradational of a state otherwise. WELL DESIG PVC Stickup: Cement - Beil Bentonite Ch No. 60 Silica #10-20 Silica 2-inch Nomin Slotted Scree Native Collap Additional Be	ets indicated by solid lines, ontacts indicated by dashed line. Be below land surface unless stated GN for B/W-20: feet. ntonite Grout: 0 - 69 feet ips: 26 - 31 feet Sand: 31 - 32 feet Sand Filter Pack: 32 - 55 feet all Schedule 80 PVC 0.020 en: 35 - 55 feet see: 55 - 58 feet entonite Fill: NA feet ells at this location: 1 als for paired wells are labeled at
	Dry to moist, loose, no odor. Primarily fine sand (< 1/2 mm) with ~10% medium sand to 2 mm and ~40% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and have a weak to strong									

0 1 0			C ' VV II V Diagramaton			ь	/W-20	ect Number: 132023
Soil B	oring:	M	fonitoring Well: A Piezometer: Boring/We	II Nui	nbe	r :□	700-20	Sheet2_ of4
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
			reaction to HCI.	\top				
-	•	SW-SM	Well-Graded Sand with Silt (15.5 - 19.5) Dry to moist, loose, no odor. Primarily medium to fine sand with no gravel, ~5% coarse sand to 5 mm, and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and have a weak reaction to HCI.					
20-		SW	Well-Graded Sand with Gravel (19.5 - 20.5) Dry, dense, no odor. Primarily coarse sand with ~15% gravel to 40 mm and ~15% silt and clay. The					
_		SW-SM	gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic, have a light grey color, and have a weak reaction to HCI.					
25—			Well-Graded Sand with Silt (20.5 - 28) Dry to moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 30 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have no reaction to a weak reaction to HCl.					
-								
_		SM	Silty Sand with Gravel (28 - 37.5) Dry, dense, no odor. Primarily medium to fine sand with ~15% gravel to 10 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The					
30-			fines are nonplastic, and have a weak to strong reaction to HCl.					

	ect Na Poring	_	ington Second Step Hydrogeologic Framework Assessment onitoring Well: X Piezometer: Boring/Wel	l Mur	— nho	. . B/	Pro W-20	Sheet 3 of 4
2011	Boring:	1٧1	fonitoring Well: X Piezometer: Boring/Wel	l Nui	TIDE	r: <u></u>	** ==	Silter 01
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
35-								
-		SW	Well-Graded Sand (37.5 - 40) Dry to moist, dense, no odor. Primarily medium to fine sand with ~5% coarse sand to 3 mm, no gravel, and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, have a brown color, and do not react to HCI.					
40-		CL	Sandy Lean Clay (40 - 41) Moist, dense, no odor. Primarily silt and clay with ~5% gravel to 20 mm and ~40% medium to fine sand. The sand and gravel are subangular to subrounded. The fines are nonplastic, have a dark brown color, and have no reaction to a weak reaction to HCI.					
-			Silty Sand (41 - 44.5) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
45-		SW	Well-Graded Sand with Gravel (44.5 - 46.5) Saturated, dense, no odor. Primarily coarse sand with ~30% gravel to 50 mm and ~10% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded to rounded. The fines are nonplastic, and do not react to HCI.					
-		SP	Poorly Graded Sand (46.5 - 48.5) Saturated, dense, no odor. Primarily medium to fine sand with no gravel, ~5% coarse sand to 5 mm, and ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, have a brown color, and do not react to HCl.					
50-		SM	Silty Sand (48.5 - 50) Saturated, dense, no odor. Primarily fine sand (< 1/2 mm) with ~5% gravel to 60 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.					
-		SW	Well-Graded Sand (50 - 54) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 50 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCI.					

Proj	roject Name:Yerington Second Step Hydrogeologic Framework Assessment Project Number:132025										
Soil I	Boring:	: M	onitoring Well: X Piezometer: Boring/W	ell Nui	nbe	r: _B	/W-20	Sheet <u>4</u> of <u>4</u>			
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks			
- 55—		SW	Well-Graded Sand (54 - 58) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 50 mm and ~5% silt and clay. The sand and gravel are subangular. The fines are nonplastic, and do not react to HCl.								
-			Bottom of Borehole at 58 feet below ground surface.								



Brown and Caldwell BORING LOG

Proj	ect Na	me: _Yer	ington Second Step Hydrogeologi	c Framework Assessment				P	ro	ject Number:	132025
Soil 1	Boring	: M	Ionitoring Well: X Piezomet	er: Boring/Well	Nu	ımbe	r:B	3/W-2	1		Sheet <u>1</u> of <u>5</u>
Bori	ng Loc	cation: Loc	ated inside the mine site.		_		thing			·	Easting:
Drill	ing Co	ontractor:	Boart Longyear	Driller: D. Reed		Gro	und S	Surfac	ce E	tion: feet a Elevation: fe	eet amsl
Drill	ing Eq	uipment:	GP24-300RS	Borehole Diameter:6-inches			e Star		7/18	3/07	Date Finished: 7/24/07
Drill	ing M	ethod: Son	iic	Drilling Fluid: Water		Con Dep	nplete th:	d 91	1 fb		Water Depth: fbmp
Sam	pling N	Method:	Core Barrel								STRUCTION
Well	Seal:	Bentonite	and Cement			Typ of V	e and Vell C	Dian asing	nete :	er 2-inch Scl	hedule 40 PVC
Logg	ged By	: R. Banda	a and C. Strauss			Slot	Size:	0.01	0 ir	nch Filter M	aterial: #10-20 Silica Sand

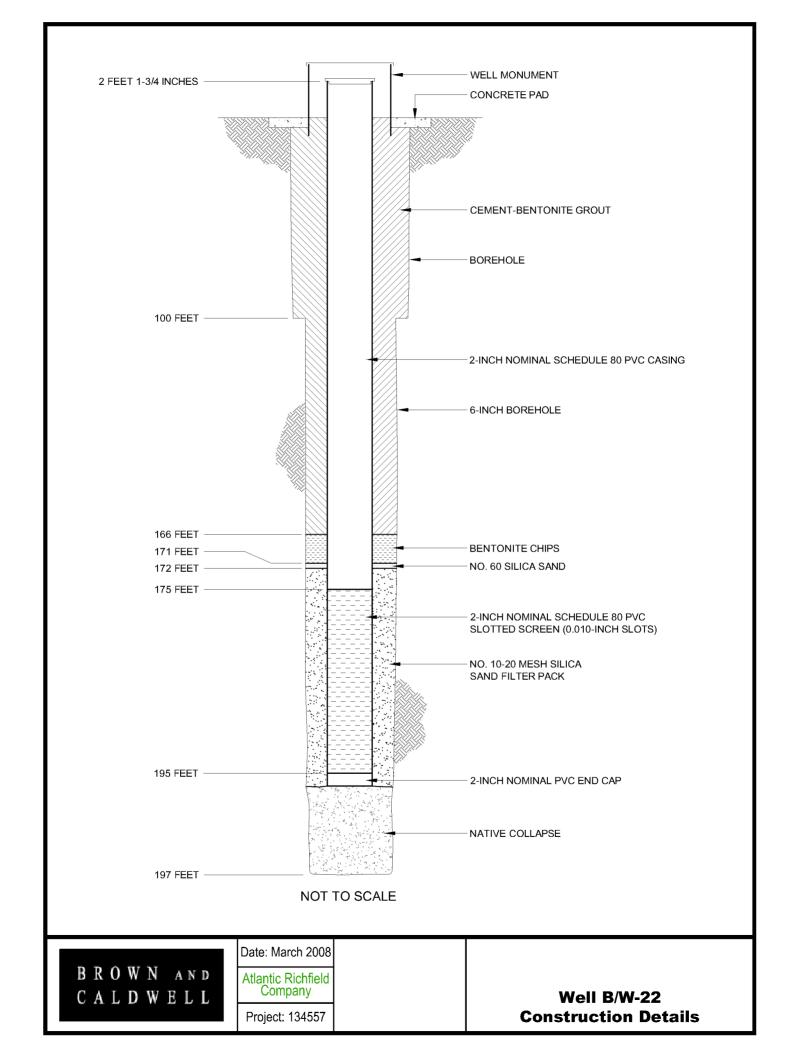
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material De	escription	Sample Name	Sample Location	Lithology	Well			Remarks
5-		SM	Silty Sand (0 - 12) Dry, loose, no odor. Primar with ~5% gravel to 20 mm ar sand and gravel are angular are nonplastic, and do not result of the same sand and gravel are sand and gravel are sand and gravel are sand and gravel are nonplastic.	nd ~30% silt and clay. The to subangular. The fines act to HCl.						Method D-24 grain-size det based on the System. Horizontal Su Nevada State zone, in feet. Sharp contact gradational contact gradational contact gradational contact gradational contact gradational contact and the state of the	ntonite Grout: 0 - 56 feet ips: 56 - 60 feet Sand: 60 - 61 feet Sand Filter Pack: 61 - 85.5 feet ial Schedule 80 PVC 0.010 en: 64 - 84 feet ise: 85.5 - 91 feet intonite Fill: NA feet ells at this location: 1 als for paired wells are labeled at
-			Dry, dense, no odor. Prima sand with ~15% gravel to 20 clay. The sand and gravel ar The fines are nonplastic, and	mm and ~20% silt and e angular to subangular.							
		SM	Silty Sand (14 - 17) Dry, dense, no odor. Prima with ~10% gravel to 20 mm a	rily medium to fine sand and ~30% silt and clay.							

Proje	ect Na	me: _Yer	ngton Second Step Hydrogeologic Framework Assessment				Pr	oject Number:132025
Soil I	Boring:	M	onitoring Well: X Piezometer: Boring/Well	Nur	nbe	r: <u>B</u>	/W-21	Sheet <u>2</u> of <u>5</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
_			The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.					
		SW-SM	Well-Graded Sand (17 - 18) Dry to moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~15% silt					
		SM	and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.					
20-			Silty Sand (18 - 20) Dry, dense, no odor. Primarily medium to fine sand with~10% gravel to 20 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The					
-		SM	fines are nonplastic, and do not react to HCl. Silty Sand (20 - 22.5) Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.					
-		SM ML	Silty Sand (22.5 - 23) Dry, dense, no odor. Primarily medium to coarse sand with ~5% gravel to 15 mm and ~40% silt and clay. The sand and gravel are angular to subangular. The					
25—		SM	fines are nonplastic, and do not react to HCl. Sandy Silt (23 - 23.5) Dry, dense, no odor. Primarily silt and clay with ~10% medium to fine sand and ~5% gravel to 10 mm. The sand and gravel are angular to subangular. The fines are nonplastic, have a light grey color, and do not react to HCl.					
_		ML	Silty Sand (23.5 - 26.5) Dry to moist, dense, no odor. Primarily medium to coarse sand with ~10% gravel to 25 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, have a brown					
-			color, and do not react to HCI. Sandy Silt (26.5 - 29) Dry, very dense, no odor. Primarily silt and clay with ~25% coarse sand and ~5% gravel to 15 mm. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.					
30-		ML	Sandy Silt (29 - 35) Dry, very dense, no odor. Primarily silt and clay with ~20% coarse to medium sand and ~10% gravel to 15 mm. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.					
-								

·	ect Na		Ingion Second Step Hydrogeologic Framework Assessment		_			roject Number: 132025
Soil l	Boring:	:[M	Ionitoring Well: X Piezometer: Boring/Wel	l Nui	mbe	r: <u> </u>	3/W-21	Sheet <u>3</u> of <u>5</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
35-		SW-SM	Well-Graded Sand with Gravel (35 - 36.5) Dry, very dense, no odor. Primarily medium to coarse sand with ~20% gravel to 15 mm and ~15% silt and clay. The sand and gravel are angular to subangular.					
-		ML	The fines are nonplastic, and do not react to HCI. Sandy Silt (36.5 - 38) Dry, very dense, no odor. Primarily silt and clay with ~20% coarse to medium sand and ~10% gravel to 15 mm. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.					
-		SM ML	Silty Sand (38 - 39) Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.					
40-			Sandy Silt (39 - 42) Dry, very dense, no odor. Primarily silt and clay with ~20% coarse to medium sand and ~10% gravel to 15 mm. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.					
-		SM SW-SM	Silty Sand (42 - 43) Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.					
45-			Well-Graded Sand with Silt (43 - 46) Dry to moist, dense, no odor. Primarily fine sand (< 1/2 mm) with ~10% gravel to 15 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.					
-		SM ML	Silty Sand (46 - 47) Dry, very dense, no odor. Primarily fine sand (< 1/2 mm) with ~10% gravel to 30 mm and ~40% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.					
-		IVIL	Sandy Silt (47 - 49.5) Dry, very dense, no odor. Primarily silt and clay with ~10% gravel to 25 mm and ~30% medium to fine grained sand. The sand and gravel are angular to subangular. The fines have low to medium plasticity and toughness, and do not react to HCI.					
50-		SM SW-SM	Silty Sand (49.5 - 50) Dry, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl. Well-Graded Sand with Silt (50 - 56)					
-			Well-Graded Sand with Silt (50 - 56) Moist, dense, no odor. Primarily medium to fine sand with no gravel, a maximum grain size of 1 mm, and ~25% silt and clay. The sand is subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.					

Proje	ect Na	me: Yeri	ington Second Step Hydrogeologic Framework Assessment		_		Pr	oject Number: <u>132025</u>
Soil I	Boring:	: M	onitoring Well: X Piezometer: Boring/Well	i Nu r	nbe	r: <u>B</u>	/W-21	Sheet <u>4</u> of <u>5</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
- 55 — -		SM	Well-Graded Sand with Silt and Gravel (56 - 58) Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~40% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic,	_				
-60-		sw	and do not react to HCI. Well-Graded Sand with Gravel (58 - 60) Dry to moist, dense, no odor. Primarily coarse to medium sand with ~20% gravel to 20 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.					
-		SM	Silty Sand (60 - 62) Moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~40% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.					
		SM	Silty Sand with Gravel (62 - 65.5) Moist, dense, no odor. Primarily medium to fine sand with ~15% gravel to 15 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.					
-		SW	Well-Graded Sand with Gravel (65.5 - 70) Saturated, dense, no odor. Primarily medium to fine sand with ~20% gravel to 15 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.					
70-		SM	Silty Sand with Gravel (70 - 71) Saturated, dense, no odor. Primarily coarse to fine sand with ~25% gravel to 20 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl. Lean Clay with Sand (71 - 73.5)					

Proj	Project Name: Yerington Second Step Hydrogeologic Framework Assessment Project Number: 132025									
Soil I	Boring:	: M	fonitoring Well: X Piezometer: Boring/Wel	l Nu	nbe	r: <u>B</u>	/W-21	Sheet <u>5</u> of <u>5</u>		
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks		
_			Dry, very dense, no odor. Primarily silt and clay with ~10% gravel to 15 mm and ~20% medium to fine sand. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.							
-		SW-SM	Well-Graded Sand with Silt and Gravel (73.5 - 74.5) Saturated, dense, no odor. Primarily coarse sand with ∼15% gravel to 25 mm and ∼25% silt and clay. The sand and gravel are angular to subangular. The fines							
75- -		SM	are nonplastic, and do not react to HCl. Silty Sand with Gravel (74.5 - 76) Dry to moist, dense, no odor. Primarily medium to fine sand with ~25% gravel to 25 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.	-						
-			Clayey Gravel with Sand (76 - 78) Moist to saturated, dense, no odor. Primarily gravel to 40 mm with ~30% medium to fine sand and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines have low to medium plasticity							
		SC	and toughness, and do not react to HCl.							
80-		SC	Clayey Sand with Gravel (78 - 79) Saturated, dense, no odor. Primarily medium to fine sand with ~15% gravel to 30 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and do not react to HCl.							
-		GC	Clayey Sand with Gravel (79 - 81) Moist, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 30 mm and 20-25% silt and clay. The sand and gravel are angular to subangular. The fines have low to medium plasticity and toughness, and do not react to HCl.	_						
-			Clayey Gravel with Sand (81 - 91) Moist, very dense, no odor. Primarily gravel to 120 mm with ~25% medium to fine sand and 25-30% silt and clay. The sand and gravel are subangular to subrounded. The fines have low to medium plasticity and toughness, and do not react to HCI. Cobbles							
-			located throughout zone and gravel content is greater than 60% below 83 feet.							
85										
90-										



Brown and Caldwell BORING LOG

Proj	ect Na	me: _Yer	ington Second Step Hydrogeolog	ic Framework Assessment				Pr	oject Number:	132025		
Soil 1	Boring	;: M	Ionitoring Well: X Piezomet	ter: Boring/We	II Nu	ımbe	r: <u>B</u>	/W-22		She	et <u>1</u> (of 11
Bori	ng Loc	cation: One	e mile south of the junction of Luzier	Lane and Locust Lane			thing:			Easting:		
Drill	ing Co	ontractor:	Boart Longyear	Driller: D. Reed		Gro	ound S	urface	vation: feet and Elevation: fe	eet amsl		
Drill	ing Eq	juipment: (GP24-300RS	Borehole Diameter:6-inche	s	Dat	e Star	ted: 7/	14/07	Date Finished:	7/18/07	
Drill	ing Mo	ethod: Son	nic	Drilling Fluid: Water		Cor Dep	npleteoth:	d 197	7 fbgs	Water Depth: fl	omp	
Sam	pling N	Method: (Core Barrel							STRUCTION		
Well	Seal:	Bentonite	and Cement			Typ of V	e and Vell C	Diame asing:	eter 2-inch Sch	nedule 80 PVC		
Logg	ged By	: R. Banda	a and C. Strauss			Slot	t Size:	0.010	inch Filter M	aterial: #10-20	Silica San	ıd
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Do	escription	Sample Name	Sample Location	Lithology	Well Construction		Remarks		
-		SM	Silty Sand (0 - 5.5) Dry, loose, no odor. Primar with ~10% gravel to 15 mm and the sand and gravel are sub The fines are nonplastic, have a weak reaction to HCI.	and ~30% silt and clay. cangular to subrounded. ce a light brown color, and					Method D-244 grain-size det based on the System. Horizontal Sul Nevada State zone, in feet.	f drilled cuttings b 88 (the visual-ma erminations and i Unified Soil Class rvey data is expre Plane system, N ts indicated by so ontacts indicated I	nual proce nomenclar sification essed in the evada We	edure), ture ne est
5-		SW-SM	Well-Graded Sand with Sil Dry, loose, no odor. Primar with ~10% gravel to 15 mm a The sand and gravel are sub The fines are nonplastic, and HCl.	rily medium to fine sand and ~15% silt and clay. angular to subrounded.					otherwise. WELL DESIG PVC Stickup: Cement - Ber Bentonite Chi No. 60 Silica #10-20 Silica 2-inch Nomins Slotted Scree Native Collap Additional Ber	ntonite Grout: 0 - ps: 166 - 171 fee Sand: 171 - 172 Sand Filter Pack al Schedule 80 P n: 175 - 195 fee se: 195 - 197 fee ntonite Fill: NA fe	166 feet t feet : 172 - 19 VC 0.010 t et eet	95 feet
10-		CL	Sandy Lean Clay (9.5 - 11) Dry, dense, no odor. Prima gravel to 10 mm and ~30% r sand. The sand and gravel a subrounded. The fines have toughness, and have a strong Silty Sand (11 - 14) Dry, loose, no odor. Primar with ~10% gravel to 20 mm and The sand and gravel are ang fines are nonplastic, and do not see the sand and gravel are ang fines are nonplastic, and do not see the sand sand sand sand sand sand sand sand	arily silt and clay with ~5% medium to fine grained are subangular to elow plasticity and g reaction to HCI. rily medium to fine sand and ~30% silt and clay.			* 19			ells at this location als for paired well lepths.		eled at
-		SM	Silty Sand with Gravel (14 Dry, loose, no odor. Primar	- 16) rily medium to fine sand	1							

Project Name:Yerington Second Step Hydrogeologic Framework Assessment Project Number:132025											
Soil I	Boring:	: M	fonitoring Well: X Piezometer: Boring/Well	ll Nur	mbe	r : _B	/W-22	Sheet <u>2</u> of <u>11</u>			
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks			
		ر	sand. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic, and do not react to HCl.			a 0					
 20		SW-SM	Well-Graded Sand with Silt and Gravel (16 - 22.5) Dry, dense, no odor. Primarily medium to fine sand with ~15% gravel to 25 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, have a reddish brown color, and have a strong reaction to HCl.								
-		SM SW	Silty Sand with Gravel (22.5 - 23) Dry, dense, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, have a brown color, and have a strong reaction to HCI.								
25-		SW-SM	Well-Graded Sand (23 - 25) Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, have a brown color, and have no reaction to a weak reaction to HCl.								
-			Well-Graded Sand with Silt and Gravel (25 - 27.5) Dry, dense, no odor. Primarily medium to fine sand with ~15% gravel to 50 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, have a reddish brown color, and do not react to HCI.								
-		SW-SM	Volcanic Tuff (27.5 - 28) Dry, dense, no odor. The fines are nonplastic, and have a strong reaction to HCI. Well-Graded Sand with Silt and Gravel (28 - 33.5) Dry, dense, no odor. Primarily medium to fine sand								
30-		QM	with ~15% gravel to 20 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCl. Silty Sand (33.5 - 37)								

Proje	Project Name:Yerington Second Step Hydrogeologic Framework Assessment Project Number:132025										
Soil I	Boring:	: M	onitoring Well: X Piezometer: Boring/Wel	l Nur	nbe	r: _B	/W-22	Sheet <u>3</u> of <u>11</u>			
				_		I					
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks			
35-			Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~40% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.								
_		SM	Silty Sand with Gravel (37 - 43) Dry, dense, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a weak to strong reaction to HCl.								
40-											
- -		CL	Sandy Lean Clay with Gravel (43 - 45) Dry, dense, no odor. Primarily silt and clay with ~15% gravel to 15 mm and ~30% medium to fine grained sand. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and have a weak to strong reaction to HCI.								
45 — - -		SW-SM	Well-Graded Sand with Silt and Gravel (45 - 50.5) Dry, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 15 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a weak to strong reaction to HCl.								
50-		SM	Silty Sand (50.5 - 52) Dry to moist, dense, no odor. Primarily silt and clay with ~5% gravel to 15 mm and ~40% medium to fine grained sand. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCl.								
		SW-SM	Well-Graded Sand with Silt and Gravel (52 - 58) Dry, very dense, no odor, Primarily medium to fine								

Proj	Project Name: Yerington Second Step Hydrogeologic Framework Assessment Project Number: 132025										
Soil Boring: Monitoring Well: X Piezometer: Boring/Well Number: B/W-22 Sheet 4 of 11											
Depth (ff)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks			
55 -			sand with ~15% gravel to 15 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a weak to strong reaction to HCl.								
-		SW-SM	Well-Graded Sand with Silt (58 - 60) Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCl.								
- 60		SW-SM	Well-Graded Sand with Silt (60 - 63) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI.	- !							
- 65		SM	Silty Sand (63 - 66) Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~40% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI.								
-	-	SM	Silty Sand (66 - 68.5) Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to 20 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCI.								
70- -		SM	Silty Sand (68.5 - 73) Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI.								

Proj	Project Name:Yerington Second Step Hydrogeologic Framework Assessment Project Number:132025											
Soil I	Boring:	: M	fonitoring Well: X Piezometer: Boring/Well	Nur	nbe	r: _B	/W-22	Sheet _5_ of _11_				
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks				
- 75- - -		SM	Silty Sand (73 - 74) Dry, very dense, no odor. Primarily silt and clay with ~5% gravel to 20 mm and ~30% medium to fine sand. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI. Silty Sand with Gravel (74 - 82.5) Dry, dense, no odor. Primarily medium to fine sand with ~20% gravel to 20 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have no reaction to a weak reaction to HCI.									
80-												
-		SM	Silty Sand (82.5 - 84) Dry, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 20 mm and ~40% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI.									
85-		SM	Silty Sand with Gravel (84 - 86.5) Dry, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 25 mm and ~20% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCI.									
-		SM	Silty Sand (86.5 - 88) Dry, very dense, no odor. Primarily silt and clay with ~10% gravel to 15 mm and ~30% medium to fine grained sand. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI.									
-		SW-SM	Well-Graded Sand with Silt (88 - 89.5) Dry, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 30 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCI.									
90-			Silty Sand (89.5 - 91) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~30% silt and									

Soil Boring: Monitoring Well: X Piezometer: Boring/Well Number: B/W-22 Sheet 6 of 11										
Soil	Boring	:: M	onitoring Well: [A] Plezometer: Boring/Well	Nur	nbe	r: <u>□</u>	VV-22	Sheet of		
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks		
1		SW	clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI. Well-Graded Sand (91 - 93.5) Dry, very dense, no odor. Primarily medium to fine							
- 95 —		SM	sand with ~5% gravel to 15 mm and 10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a weak reaction to HCl. Silty Sand (93.5 - 96) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCl.	-						
-		SM	Silty Sand with Gravel (96 - 97) Dry, very dense, no odor. Primarily medium to fine sand with ~20% gravel to 20 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to							
- 100 — - - -			Well-Graded Sand with Gravel (97 - 106) Dry, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 25 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a weak to strong reaction to HCl.							
-		SM	Silty Sand (106 - 107.5) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~30% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic,							
-		SM	and have a weak to strong reaction to HCI. Silty Sand (107.5 - 109) Dry, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~40% silt and clay. The sand and gravel are subangular to subrounded.							
110-		SM	The fines are nonplastic, and have a strong reaction to HCI. Silty Sand (109 - 111)							

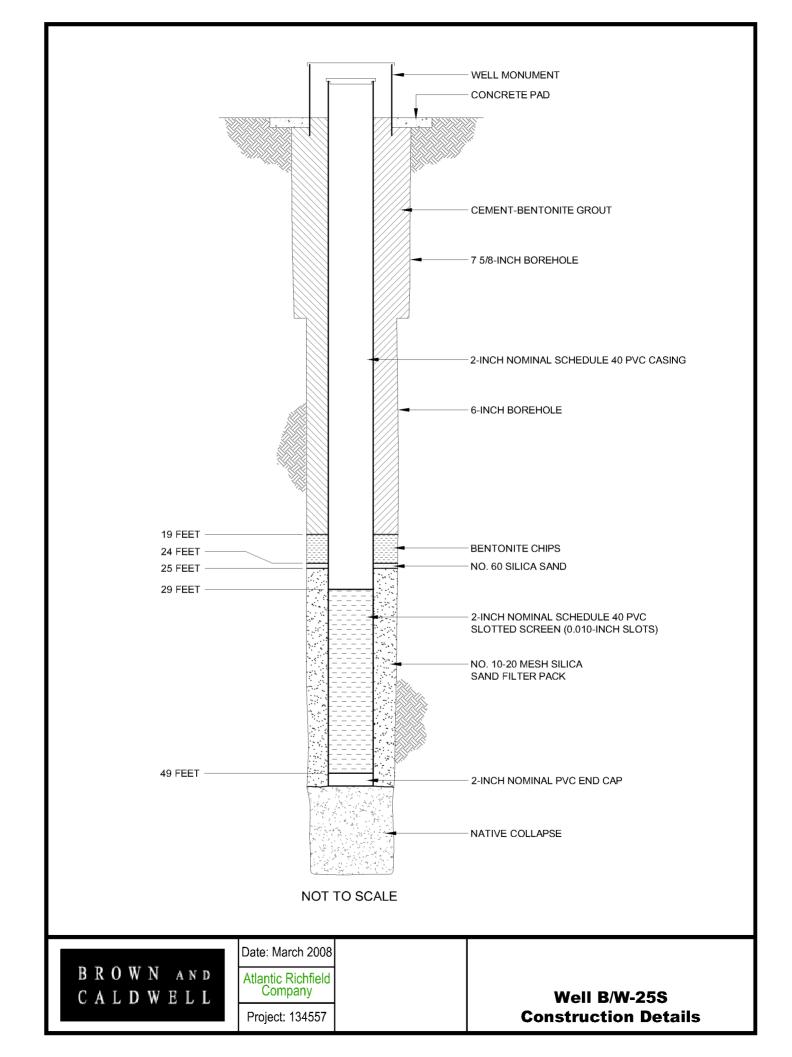
٠	Froject Name:										
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks			
-		SW	Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~30% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic, and have a weak to strong reaction to HCI. Well-Graded Sand with Gravel (111 - 114.5) Dry, dense, no odor. Primarily medium to fine sand with ~15% gravel to 25 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a weak to strong reaction to HCI.								
115- -		CL	Gravelly Lean Clay (114.5 - 116) Dry, very dense, no odor. Primarily silt and clay with ~20% gravel to 25 mm and ~20% coarse to fine grained sand. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and have a weak to strong reaction to HCI.								
-	-	SW	Well-Graded Sand with Gravel (116 - 118) Dry to moist, dense, no odor. Primarily medium to fine sand with ~25% gravel to 25 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a weak to strong reaction to HCI.								
-	_	SM SW-SM	Silty Sand (118 - 119) Dry, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCl.								
120-		sc	Well-Graded Sand with Silt (119 - 121) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 30 mm and ~15% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic, and have a weak reaction to HCI.								
-	_	SW	Clayey Sand (121 - 122) Dry, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~40% silt and clay The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.								
-			Well-Graded Sand (122 - 124.5) Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.								
125-	_	SW	Well-Graded Sand with Gravel (124.5 - 125.5) Dry to moist, dense, no odor. Primarily medium to fine sand with ~30% gravel to 20 mm and ~15% silt and clay. The sand and gravel are angular to								
-	-	CL	and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a weak reaction to HCl. Sandy Lean Clay with Gravel (125.5 - 127)								
-		SM	Dry to moist, very dense, no odor. Primarily silt and clay with ~25% gravel to 15 mm and ~20% medium to fine grained sand. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.								
			Silty Sand (127 - 131) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~30% silt and								

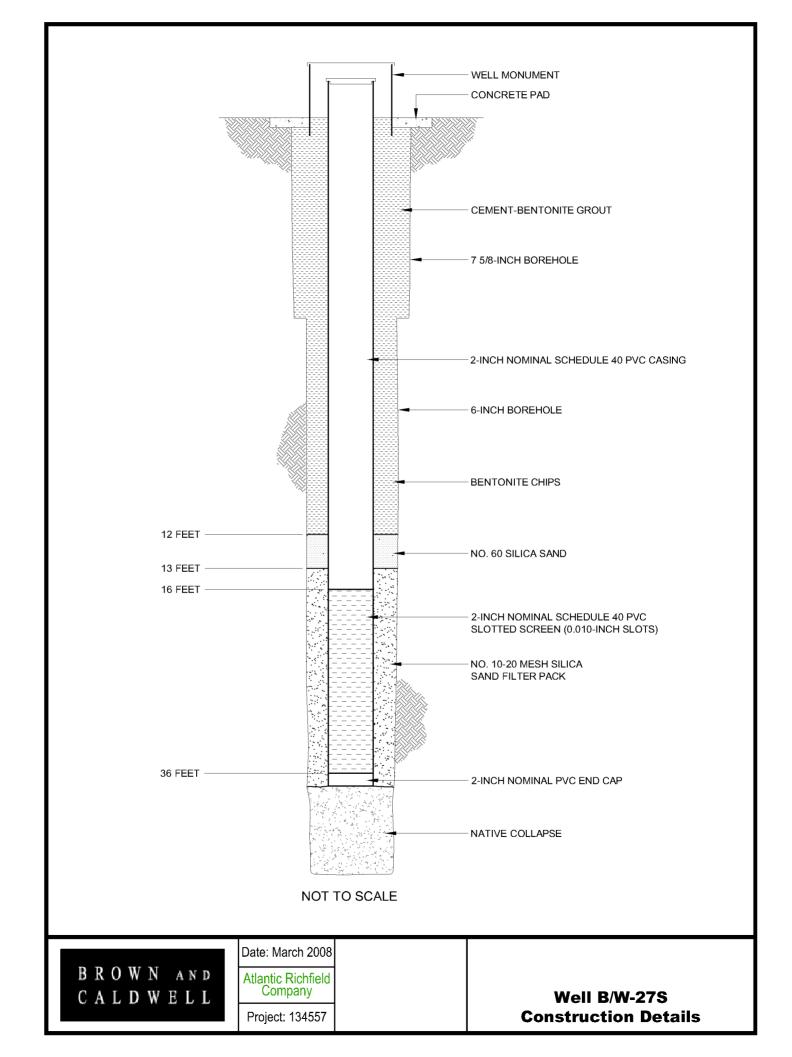
Proj	ect Na	me: _Yer	rington Second Step Hydrogeologic Framework Assessment		_		Pro	oject Number:132025
Soil 1	Boring	: M	fonitoring Well: X Piezometer: Boring/Well	l Nur	nbe	r: <u>B</u>	/W-22	Sheet <u>8</u> of <u>11</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
130-			clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
-		SM	Silty Sand (131 - 132) Dry, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~40% silt and clay. The sand and gravel are subangular to subrounded.			\$		
- 135 – - -		SW-SM	The fines are nonplastic, and do not react to HCl. Well-Graded Sand with Silt and Gravel (132 - 139.5) Dry, very dense, no odor. Primarily medium to fine sand with ~20% gravel to 20 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have no reaction to a weak reaction to HCl.					
- 140 — - -		SW	Well-Graded Sand (139.5 - 144) Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCl.	-				
- 145- -		SW-SM	Well-Graded Sand with Silt (144 - 146.5) Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have no reaction to a weak reaction to HCl.					
-	-	SM	Silty Sand (146.5 - 149) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~40% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic,					

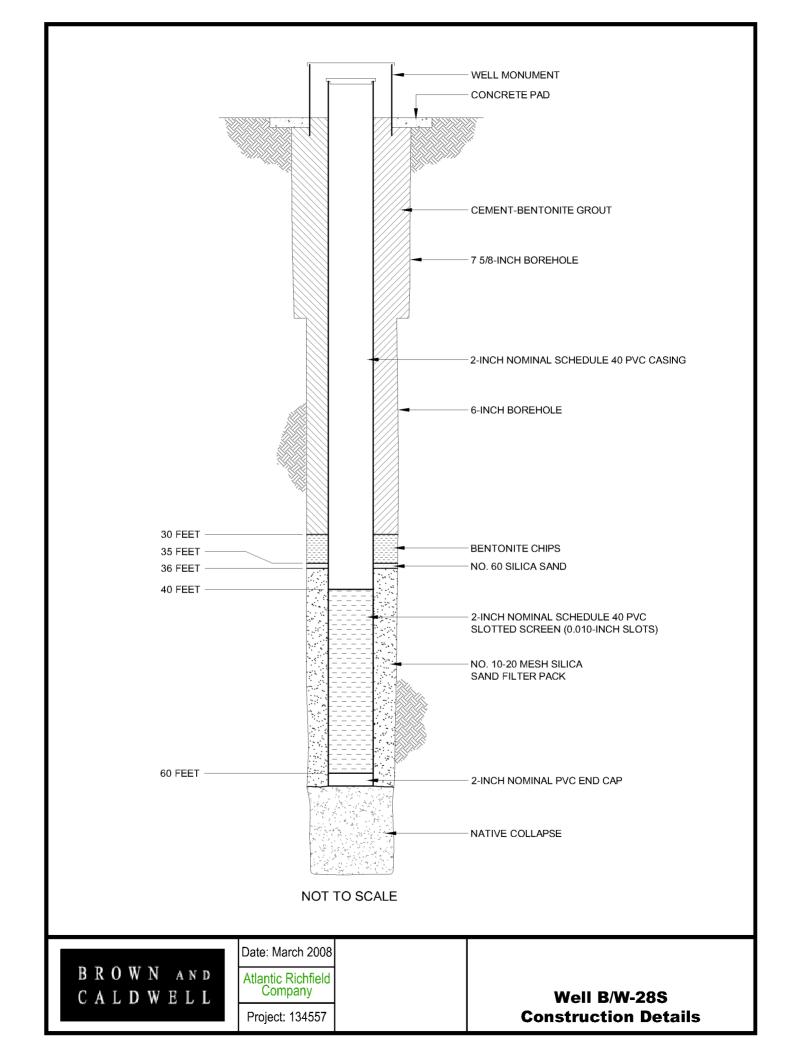
Soil Boring: Monitoring Well: X Piezometer: Boring/Well Number: B/W-22 Sheet 9 of 11										
3011	Bumg	, IVI	Officing well. [2] Trezonicier. Doi ing/well	Nui	line	r: <u> </u>	VV	Slict 01		
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks		
150-		CL	Sandy Lean Clay (149 - 150) Dry, very dense, no odor. Primarily silt and clay with ~10% gravel to 10 mm and ~20% medium to fine grained sand. The gravel is angular to subangular and							
-		SM	the sand is subangular to subrounded. The fines have low plasticity and toughness, and have a strong reaction to HCl.							
-			Silty Sand (150 - 152) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded.			77777				
		CL	The fines are nonplastic, and have a strong reaction to HCl.							
	_		Sandy Lean Clay (152 - 155.5) Dry, very dense, no odor. Primarily silt and clay with ~10% gravel to 10 mm and ~25% medium to fine grained sand. The gravel is angular to subangular and the sand is subangular to subrounded. The fines have low to medium plasticity with low toughness, and have a strong reaction to HCl.							
155-			Well Conded Conduction City and Convel (AFF F. 4FC)		٠					
-	_	SW-SM	Well-Graded Sand with Silt and Gravel (155.5 - 156) Saturated, dense, no odor. Primarily coarse to fine sand with ~20% gravel to 10 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have no reaction to a weak reaction to HCI.	55-160						
-	_		Silty Sand with Gravel (156 - 159.5) Saturated, dense, no odor. Primarily medium to fine sand with ~15% gravel to 15 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCl.	B/W-22@155-160						
160-		CL	Sandy Lean Clay (159.5 - 160) Dry, very dense, no odor. Primarily silt and clay with		٠					
-	_	CL	~5% gravel to 25 mm and ~10%medium to fine grained sand. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and do not react to HCI.							
	-	CL	Sandy Lean Clay (160 - 162) Dry to moist, very dense, no odor. Primarily silt and clay with ~5% gravel to 5 mm and ~30% medium to fine grained sand. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCI.							
165-	-		Sandy Lean Clay (162 - 180) Dry to moist, very dense, no odor. Primarily silt and clay with ~10% gravel to 15 mm and ~30% coarse to fine grained sand. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCI.							
-	-									

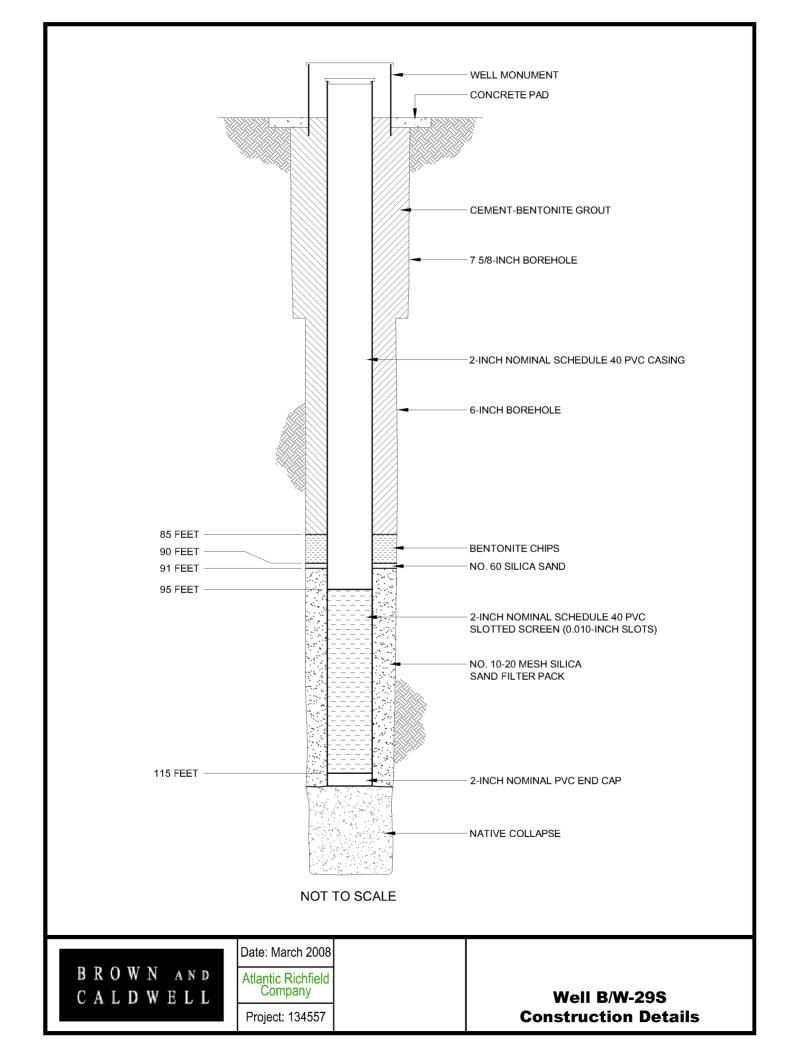
Project Name: Yerington Second Step Hydrogeologic Framework Assessment Project Number: 132025											
Soil Boring: Monitoring Well: X Piezometer: Boring/Well Number: B/W-22											Sheet <u>10</u> of <u>11</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Ма	terial Description		Sample Name	Sample Location	Lithology	Well Construction	Remarks	
- 170 — -	-										
- 175 — -	-										
- 180 – - -		CL	~5% gravel to 15 n grained sand. The subrounded. The f	(180 - 187) I, no odor. Primarily silt a nm and ~25% medium to sand and gravel are subtines have low to medium, and have a weak reaction.	o fine angular to o plasticity						
185-	-										

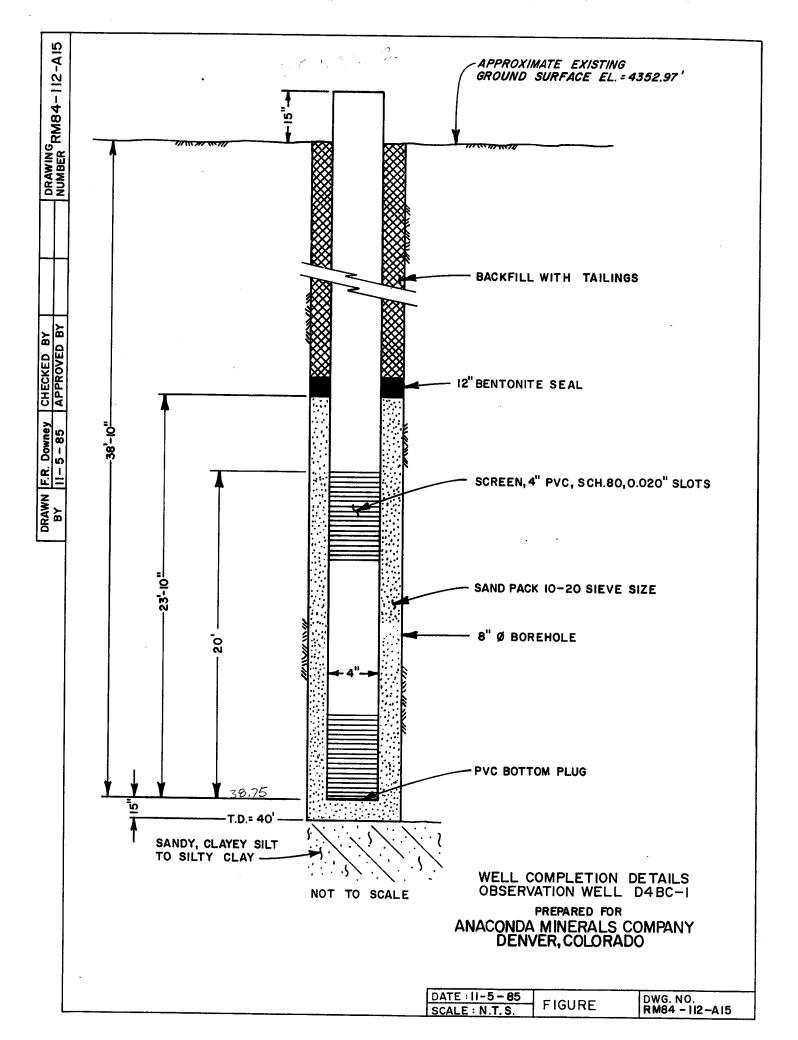
Project Name: Yerington Second Step Hydrogeologic Framework Assessment Project Number: 132025											
Soil I	Boring:	. M	onitoring Well: X Piezometer: Boring/Well	Nur	nbe	r: <u>B</u>	W-22	Sheet <u>11</u> of <u>11</u>			
		-									
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks			
-		SC	Clayey Sand (187 - 189.5) Moist, very dense, no odor. Primarily silt and clay with ~5% gravel to 35 mm and 25% medium to fine grained sand. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCl.								
100		SM	Silty Sand (189.5 - 190)								
190-		CL	Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~40% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.								
-			Sandy Lean Clay (190 - 194.5) Dry, very dense, no odor. Primarily silt and clay with ~10% gravel to 20 mm and ~20% medium to fine grained sand. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCl.								
195 <i>-</i> -		CL	Sandy Lean Clay (194.5 - 197) Dry, very dense, no odor. Primarily silt and clay with ~5% gravel to 20 mm and ~25% coarse to fine grained sand. The sand and gravel are subangular to subrounded. The fines have low to medium plasticity with low toughness, and do not react to HCI.								
-			Bottom of Borehole at 197 feet below ground surface.								











Brown and Caldwell Carson City, Nevada

Project Na	me: PV	/S Characterization			_	1	Project Number:	136739.003				
Soil Boring	g□ N	fonitoring Well: X Piezometer: Boring/	Well N	lam	e: <u>L</u>	EP-MV	V-1S	Sheet 1 of 3				
Boring Lo	cation: On	Site, east of Pumpback Well System					56459.6	Easting: 320601.7				
Drilling C	ontractor:	Cascade Drilling Inc.		G	op of l	PVC E I Surfa	levation: 4368. ce Elevation: 4	5 feet amsl 366 feet amsl				
Drilling E	quipment:	CS 500 Sonic Drill Rig			Date Started: 2/26/09 Date Finished: 2/27/09 Completed Water							
Drilling M	Drilling Method: Sonic, utilized 4" core barrel						6 fbgs	Water Depth: 39.63 fbmp				
Sampling Method: NA Driller: R. LaBrosse Sr.						WELL CONSTRUCTION						
Well Seal:	NA	Borehole Diameter: 6				ıd Diai Casinş		chedule 40 PVC				
Logged By	: C. Strau	ss Drilling Fluid: NA		S	lot Siz	e: 0.02	20 Filter M	aterial: #10-20 Silica Sand				
Depth (ft) Elevation (famsl)	USCS Group Symbol	Material Description	Comple Name	Sample Location	Lithology	Well Construction		Remarks				
-4365- 	SM	No Recovery (0 - 6) No sample due to vacuum truck removal. Silty Sand (6 - 15) Dry, loose, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, have the 2.5YR 4/6 coloring, and do not react to HCI.					ASTM Methoprocedure), nomenclatur Classificatio Horizontal S State Plane Nevada with Processing 3 2703), desig the North Arr (NAD27 GR measuremer Sharp conta gradational cline. All depths ar stated others	urvey data is expressed in the Coordinate System (SPCS) for a Federal Information Standard code, 2703 (FIPS nated as Nevada State Plane in nerican Datum of 1927 system D), West zone, and unit of it is feet. cts indicated by solid lines, contacts indicated by dashed be below land surface unless wise. GN for LEP-MW-1S:				
15-4350-	SP-SM SM SP-SM	Poorly Graded Sand with Silt (15 - 15.5) Dry, loose, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Silty Sand (15.5 - 17) Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, have the 2.5YR 4/4 coloring, and do not react to HCI. Poorly Graded Sand with Silt and Gravel (17 - 19) Dry, loose, no odor. Primarily medium to fine sand with ~15% gravel to 25 mm and ~10% silt and clay. The sand					Bentonite Ct #10-20 Silica 2-inch Nomi (0.020-inch)	: 2.50 feet. intonite Grout: 0 - 30 feet injes: 30 - 33 feet a Sand Filter Pack: 33 - 48 feet nal Schedule 40 PVC Slotted Screen: 35 - 45 feet entonite Fill: 48 - 66 feet				

Proj	Project Name: PWS Characterization Project Number: 136739.003										
Soil	Boring	; M	onitoring Well: X Piezometer: Boring/We	II N	ame	LE	EP-MV	N-1S Sheet 2 of 3			
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks			
			nonplastic, and do not react to HCI.	Τ			3 8				
-	4345—	SP	Clayey Sand (19 - 21) Dry to moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.			(//2					
-	-	sc	Poorly Graded Sand (21 - 24) Dry, loose, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Clayey Sand (24 - 27.5)								
25-	4340-		Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to 5 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, have the 2.5YR 4/6 coloring, and do not react to HCI.								
-	-	SP	Poorly Graded Sand (27.5 - 29) Dry to moist, loose, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.								
30-	4335—	SM	Silty Sand (29 - 32) Dry to moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.								
-	- -	sc	Clayey Sand (32 - 37) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines have low to medium plasticity and toughness, have a 5YR 3/4 coloring, and do not react to HCI.								
35-	4330 —							LEP-MW-1S screened from 35 - 45 ft bgs			
		sc	Clayey Sand (37 - 38) Dry to moist, dense, no odor. Primarily medium to fine								
-]	SP	sand with ~10% gravel to 10 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.	1							
40-	_		Poorly Graded Sand (38 - 40.5) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.								
- - -	4325	SM	Silty Sand (40.5 - 44) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, have the 5YR 4/4 coloring, and do not react to HCI.								
45-	-	SP	Poorly Graded Sand (44 - 46.5) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The			.1.1.					

Proj	ect Na	me: PW	S Characterization				1	Project Number: <u>13673</u>	39.003	
Soil!	Boring	; M	fonitoring Well: X Piezometer: Boring/We	ell N	ame	e: <u>Ll</u>	EP-M\	W-1S	Sheet 3 of	3
Depth (fl)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remar	rks	
-	4320-		fines are nonplastic, and do not react to HCI.							
-	-	SM	Silty Sand (46.5 - 49) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, have the 5YR 4/4 coloring, and do not react to HCI.							
50-		SP-SM	Poorly Graded Sand with Silt (49 - 50) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~10% silt and clay.							
	4315—	SM	The sand and gravel are subangular to subrounded. The fines are nonplastic, have the 5YR 3/4 coloring, and do not react to HCI. Silty Sand (50 - 53) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, have the 5YR 3/4 coloring, and have no							
55-		SC	reaction to a weak reaction to HCI. Clayey Sand (53 - 60) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines have low to medium plasticity and toughness, and do not react to HCI.							
-	4310									
-	4305	CL	Sandy Lean Clay (60 - 62) Moist, very dense, no odor. Primarily medium to fine sand with -5% gravel to 10 mm and ~35% silt and clay. The sand and gravel are angular to subangular. The fines have moderate to high plasticity, have the 5YR 4/4 coloring, and do not react to HCI.							
65-	- -	sc	Clayey Sand (62 - 66) Dry to moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, have the 2.5YR 4/4 coloring, and do not react to HCI.							
-	4300-		Bottom of Borehole at 66 feet below ground surface.	+	L					
- - - 70-	- - - -									

Brown and Caldwell Carson City, Nevada BORING LOG Project Name: PWS Characterization

Pro	ject Na	me:Pv	/S Characterization			_		J	Project	Number:	130739.003	
Soil	Boring	: N	fonitoring Well: X Piezometer:	Boring/Well	Na	me	: <u>L</u>	EP-MV	N-2S		Sheet 1 of 3	
Boring Location: On Site, east of Pumpback Well System							Northing: 1556953.7 Easting: 32060 Top of PVC Elevation: 4362.4 feet amsl			Easting: 320602.8		
Drilling Contractor: Cascade Drilling Inc.											l feet amsl 360.5 feet amsl	
Drilling Equipment: CS 500 Sonic Drill Rig						Date Star		arted: 2/27/09			Date Finished: 2/27/09	
Dri	Drilling Method: Sonic, utilized 4" core barrel						Completed Water Depth: 58 fbqs Depth: 3			Water Depth: 33.69 fbmp		
San	Sampling Method: NA Driller: R. LaBrosse Sr.						WELL CONSTRUCTION					
						Type and Diameter of Well Casing: 2-inch Schedule 40 PVC						
Logged By: C. Strauss Drilling Fluid: NA						Slot Size: 0.020 Filter Material: #10-20 Silica Sand						
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Descri	ption	Sample Name	Sample Location	Well Construction Well Construction			Remarks		
5-	4360 —		No Recovery (0 - 6) Core not recovered due to vacuum	truck removal.					AS pro nor Cla Hor Sta Ner Pro 270 the	TM Metho cedure), general attraction in the Plane Covada with secessing Sold, design North Am	urvey data is expressed in the Coordinate System (SPCS) for a Federal Information tandard code, 2703 (FIPS nated as Nevada State Plane in lerican Datum of 1927 system D), West zone, and unit of	
	- - - -	SM	Silty Sand (6 - 9) Dry, loose, no odor. Primarily mec ~10% gravel to 15 mm and ~15% silt and gravel are angular to subangular. nonplastic, have the 5YR 4/4 coloring HCI.	and clay. The sand The fines are					Sha gra line	arp contac dational co	ts indicated by solid lines, ontacts indicated by dashed	
10-	4350—	SM	Silty Sand (9 - 12) Dry to moist, dense, no odor. Prin sand with ~5% gravel to 5 mm and ~ The gravel is angular to subangular a subangular to subrounded. The fines have the 5YR coloring, and do not re	25% silt and clay. nd the sand is s have low plasticity,					WE PV Cer Ber	well Design for Lep-MW-2s: PVC Stickup: 1.90 feet. Cement - Bentonite Grout: 0 - 24 feet Bentonite Chips: 24 - 27 feet #10-20 Silica Sand Filter Pack: 27 - 41 2-inch Nominal Schedule 40 PVC (0.020-inch) Slotted Screen: 29 - 39 fe	wise. GN for LEP-MW-2S: : 1.90 feet. ntonite Grout: 0 - 24 feet ips: 24 - 27 feet	
] -	SP	Poorly Graded Sand (12 - 13) Dry to moist, loose to dense, no od to fine sand with ~5% gravel to 10 m	mm and ~10% silt and bangular to subrounded. oot react to HCI.					2-ir		al Schedule 40 PVC	
] -	SM	clay. The sand and gravel are suban The fines are nonplastic, and do not i Silty Sand (13 - 14.5) Dry to moist, dense, no odor. Prin						Additional B		entonite Fill: 41 - 58 feet	
15-	4345	SW	sand with ~5% coarse sand and ~25 sand and gravel are subangular to su have low plasticity, and do not react! Well Graded Sand (14.5 - 18) Moist, loose, no odor. Primarily m with ~10% gravel to 20 mm and ~10* sand and gravel are subangular to su are nonplastic, and do not react to Hi No Recovery (18 - 20)	o HCl. edium to fine sand silt and clay. The brounded. The fines			V					
	-						$/ \setminus$	8				

Proje	ect Nai	me: PW	/S Characterization			-	Proje	ect Number: 136739.003		
Soil I	Boring:	M	fonitoring Well: A Piezometer: Boring/We	ell Name: LEP-MW-2S Sheet 2						
				_						
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks		
-	4340-	SC	Clayey Sand (20 - 22) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.							
	-	CL	Sandy Lean Clay (22 - 23) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~30% silt and clay.							
25-	- 4335—	SM	The sand and gravel are subangular to subrounded. The fines have medium plasticity, have the 5YR 4/3 coloring, and have no reaction to a weak reaction to HCI. Sitty Sand (23 - 27) Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a weak to strong reaction to HCI.							
30-	4330—	SM	Silty Sand (27 - 32) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a weak reaction to HCl.				MINIMUM	LEP-MW-2S screened from 29 - 39 ft bgs		
-	- -	SP	Poorly Graded Sand (32 - 33.5) Saturated, dense, no odor. Primarily medium to fine sand with ~6% coarse sand to 2 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and have no reaction to a weak reaction to							
35-	-	SW	\HCI. Well Graded Sand (33.5 - 35.5) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~10% slit and clay.							
-	4325	SM	The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Sitty Sand (35.5 - 40) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, have the 5YR 4/3 coloring, and have a weak to strong reaction to HCI.							
40-	4320-	SW	Well Graded Sand (40 - 41) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The	-						
-	-	SM	fines are nonplastic, and do not react to HCI. Silty Sand (41 - 45) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have no reaction to a weak reaction to HCI.							
45-	-			L						

Proj	ect Nai	ne: PW	/S Characterization]	Project Number: 136739.	003
	Boring		fonitoring Well: ☑ Piezometer: ☐ Boring/W	ell Na	ame	: <u>L</u>	EP-M\	N-2S	Sheet <u>3</u> of <u>3</u>
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks	
	4315	SP	Poorty Graded Sand (45 - 50) Saturated, dense, no odor. Primarily medium to fine sand with more medium grained sand than fine grained sand, ~10% gravel to 5 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a weak reaction to HCI.						
	4310	SM	Silty Sand (50 - 55) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.						
	4305—	CL	Sandy Lean Clay (55 - 58) Moist, very dense, no odor. Zone has a 5YR 3/4 coloring. Bottom of Borehole at 58 feet below ground surface.						
60-	4300 —								
65-	4295—								
1	4290-								

Brown and Caldwell Carson City, Nevada BORING LOG

Project Na	me: PW	/S Characterization		_		P	roject Number:	136739.003				
Soil Boring	g□ M	fonitoring Well: X Piezometer: Boring/Well I	Nar	me:	LE	EP-MV	V-3S	Sheet <u>1</u> of <u>3</u>				
Boring Lo	cation: On	Site, north of Pumpback Well System				g: 155		Easting: 321277.7				
Drilling C	ontractor:	Cascade Drilling Inc.					levation: 4354. ce Elevation: 4					
Drilling E	quipment:	CS 500 Sonic Drill Rig					2/28/09	Date Finished: 2/28/09				
Drilling M	lethod: Sor	nic, utilized 4" core barrel		Cor	mplet pth:		2 fbgs	Water Depth: 25.95 fbmp				
Sampling	Method:	NA Driller: R. LaBrosse Sr.						STRUCTION				
Well Seal:	NA	Borehole Diameter: 6		Type and Diameter of Well Casing: 2-inch Schedule 40 PVC								
Logged By	: C. Straus	ss Drilling Fluid: NA		Slot Size: 0.020 Filter Material: #10-20 Silica Sand								
Depth (ft) Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction		Remarks				
4350-	SM SP SM	No Recovery (0 - 6) No Recovery due to vacuum truck removal. Silty Sand (6 - 9) Dry, loose, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, have the 2.5YR 3/3 coloring, and have a weak reaction to HCl. Poorly Graded Sand (9 - 10) Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl. Silty Sand (10 - 12) Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a weak to strong reaction to HCl. Silty Sand (12 - 15) Dry to moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, have the 2.5YR 3/4 coloring, and have			ingerijang ing ing ing ing ing ing ing ing ing i		ASTM Methoprocedure), nomenclatur Classification Horizontal S State Plane Nevada with Processing \$2703), design the North An (NAD27 GRI measuremer Sharp contains gradational cline. All depths ar stated others WELL DESIC PVC Stickup Cement - Be Bentonite Cf #10-20 Silicia 2-inch Nomi (0.020-inch)	urvey data is expressed in the Coordinate System (SPCS) for a Federal Information Standard code, 2703 (FIPS nated as Nevada State Plane in nerican Datum of 1927 system D), West zone, and unit of the information of the info				
4335-	SM	a weak to strong reaction to HCI. Silty Sand (15 - 18) Dry to moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, have the 2.5YR 3/3 coloring, and do not react to HCI. No Recovery (18 - 22)					LEP-MV it bgs	V-3S screened from 19 - 29				

Proje	ect Nai		VS Characterization	-	Project Number: 136739.003						
Soil F	Boring	N	fonitoring Well: Piezometer: Boring/We	ll N	ame	e: <u>L</u>	EP-M\	W-3S Sheet 2 of 3			
Depth (ft)	Elevation (famsl)	JSCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks			
-	4330—	SM	Silty Sand (22 - 24.5) Moist, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines have low to high plasticity and weak toughness, have the 5YR 4/4 coloring, and do not react to HCI. More clay content from								
25-	-	SC	24 - 24.5 ft bgs. Clayey Sand (24.5 - 26) Moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, have the 5YR 3/3 coloring, and do not react to HCI.								
-	4325—	SM	Well Graded Sand (26 - 27) Saturated, dense, no odor. Primarily medium to fine sand with ~5% grawel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl. Silty Sand (27 - 27.5)								
30-	-		Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity, have the 5YR 4/3 coloring, and do not react to HCI. Poorly Graded Sand (27.5 - 31.5)								
-	4320— -	SM	Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~10% slit and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Sitty Sand (31.5 - 36) Moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~20% slit and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.								
35-	-										
-	- 4315— -	SP	Poorly Graded Sand (36 - 42) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~10% slit and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.								
40-	-										
-	4310—	SC	Clayey Sand (42 - 48) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~20% slit and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, have the 5YR 3/4 coloring, and do not react to HCI.								

Proj	ect Nai	me: _PW	S Characterization			-]	Project Number: <u>1367</u>						
Soil I	Soil Boring Monitoring Well: X Piezometer. Boring/Well Nam							lame: LEP-MW-3S Sheet 3 of 3						
					_									
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Rema	rks					
-	4305—	SW	Well Graded Sand with Gravel (48 - 52)											
50-	- -	3**	Well Graded Sand with Gravel (48 - 52) Saturated, dense, no odor. Primarily medium to fine sand with ~15% gravel to 25 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.											
-	4300 — -		Bottom of Borehole at 52 feet below ground surface.											
55-	- - -													
-	4295—													
60-	-													
-	4290													
65-	-													
-	4285—													
70-	-													

Brown and Caldwell Carson City, Nevada BORING LOG

Proj	ect Naı	me: PW	/S Characterization				1	Project Number:	136739.003
Soil	Boring:	M	fonitoring Well: X Piezometer: Boring/We	II N	ame	e: _L	EP-M\	N-5S	Sheet 1 of 2
Bori	ng Loc	ation: On	Site, north of Pumpback Well System				ıg: 15		Easting: 322061.3
Drill	ing Co	ntractor:	Cascade Drilling Inc.					levation: 4353. ce Elevation: 4	
Drill	ing Eq	uipment:	CS 500 Sonic Drill Rig		D	ate St	arted:	3/2/09	Date Finished: 3/2/09
Drill	ing Me	thod: Son	nic, utilized 4" core barrel		C	omple		7 fbqs	Water Depth: 23.06 fbmp
Sam	pling N	fethod:	NA Driller: R. LaBrosse Sr.					WELL CON	STRUCTION
Well	Seal: 1	NA	Borehole Diameter: 6				nd Dia Casin		chedule 40 PVC
Logg	ged By:	C. Strau	ss Drilling Fluid: NA		S	ot Siz	e: 0.0	20 Filter M	aterial: #3 Silica Sand
								•	
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction		Remarks
5-	4350		No Recovery (0 - 9) No recovery due to vacuum truck removal.					ASTM Metho procedure), onomenclatur Classification Horizontal State Plane Nevada with Processing \$2703), design the North An (NAD27 GRI measuremer Sharp contains gradational cline.	urvey data is expressed in the Coordinate System (SPCS) for a Federal Information Standard code, 2703 (FIPS nated as Nevada State Plane in nerican Datum of 1927 system D), West zone, and unit of
10-	4340—	SW	Well Graded Sand (9 - 11) Dry, loose, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Iron staining present. Sandy Lean Clay (11 - 13)					stated others WELL DESI PVC Stickup	wise. GN for LEP-MW-5S:
		CL	Dry to moist, very dense, no odor. Primarily silt and clay with ~5% gravel to 5 mm and ~45% medium to fine grained sand. The sand and gravel are angular to subangular. The fines have high plasticity, have the 5YR 4/4 coloring, and do not react to HCI.					Bentonite Ch #3 Silica Sar 2-inch Nomir (0.020-inch)	nips: 10 - 13 feet nd Filter Pack: 13 - 27 feet nal Schedule 40 PVC Slotted Screen: 15 - 25 feet entonite Fill: 27 - 37 feet
15-	- -	SM	Sitty Sand (13 - 17) Dry, loose, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.						V-5S screened from 15 - 25
	4335-								
	- - -	sc sc	Clayey Sand with Gravel (17 - 18) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 15 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl. Clayey Sand (18 - 22) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~25% silt and						

Project Name: PWS Characterization						Project Number: 136739.003						_	
Soil Bori			fonitoring Well: ☑ Piezometer ☐ Boring/	Well I	lam	e: _L	EP-M\	W-5S		Sheet	2	of _	2
Depth (ft)	odmyo arang o'Ol	occo code of more	Material Description		Sample Location	Lithology	Well Construction		Remarks				
4330)-		clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and have the 5YR 4/4 coloring.										
25—	S	P	Poorly Graded Sand (22 - 27) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.										
4325	;- <u></u>												
30— 4320 - 435— 4315		_	Lean Clay (27 - 37) Moist, very dense, no odor. Primarily silt and clay with ~5% gravel to 5 mm and ~35% medium to find grained sand. The sand and gravel are angular to subangular. The fines have high plasticity and toughness, have the 5YR 4/4 coloring, and do not react to HCI.										
	-		Bottom of Borehole at 37 feet below ground surface.	\dashv		/////							
40-	-												

Brown and Caldwell BORING LOG

Proj	ect Na	me: PW	S Characterization				I	Project Number:	136739.003					
Soil 1	Boring	: M	fonitoring Well: X Piezometer: Boring/W	ell N	am	e: _L	.EP-MV	V-6S	Sheet 1 of 3					
Bori	ng Loc	cation: On	Site, north of Pumpback Well System					7219.1	Easting: 323330.3					
Drill	ing Co	ntractor:	Cascade Drilling Inc.					levation: 4354.6 ce Elevation: 43						
Drill	ing Eq	uipment:	CS 500 Sonic Drill Rig				arted:	3/2/09	Date Finished: 3/2/09					
Drill	ing M	ethod: Sor	nic, utilized 4" core barrel			omple epth:		1 fbgs	Water Depth: 20.75 fbmp					
Sam	pling !	Method:	NA Driller: R. LaBrosse Sr.						STRUCTION					
Well	Seal:	NA	Borehole Diameter: 6		Type and Diameter of Well Casing: 2-inch Schedule 40 PVC									
Logg	ged By	: C. Straus	Drilling Fluid: NA		S	ot Siz	te: 0.02	20 Filter Ma	nterial: #3 Silica Sand					
					L									
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction		Remarks					
5-	4350 —		No Recovery (0 - 7) No recovery due to vacuum truck removal.					ASTM Metho procedure), or nomenclature Classification Horizontal Su State Plane (Nevada with Processing S 2703), design the North Am (NAD27 GRII measurement	urvey data is expressed in the Coordinate System (SPCS) for a Federal Information standard code, 2703 (FIPS nated as Nevada State Plane in lerican Datum of 1927 system D), West zone, and unit of					
-	4345— -	SM	Silty Sand (7 - 9) Dry, loose, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Poorly Graded Sand (9 - 13) Dry, loose, no odor. Primarily medium to fine sand with					gradational c line.	ontacts indicated by dashed					
- 10	4340—		5% gravel to 5 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Fine grained.					PVC Stickup: Cement - Ber Bentonite Ch #3 Silica San 2-inch Nomin (0.020-inch):	ntonite Grout: 0 - 19 feet ips: 19 - 22 feet d Filter Pack: 22 - 37 feet lal Schedule 40 PVC Slotted Screen: 25 - 35 feet					
	-	SM	Silty Sand (13 - 14) Dry, dense, no odor. Primarily medium to fine sand with					Additional Be	entonite Fill: 37 - 51 feet					
15-	4335—	SM	~5% gravel to 10 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, have the 5YR 5/4 coloring, and have a strong reaction to HCI. Silty Sand (14 - 19) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, have the 5YR 4/4 coloring, and do not react to HCI. Poorly Graded Sand (19 - 22.5) Meist to saturated dense 22.50											
		JF.	Moist to saturated, dense, no odor. Primarily medium to											

oil E	Boring [M	onitoring Well: ☐ Piezometer: ☐ Boring/W	ell Na	ame	e: <u>Ll</u>	EP-MV	N-6S Sheet 2 of .
Depth (ff)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
	-		fine sand with ~5% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
	4330-	SW	Well Graded Sand (22.5 - 24) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The					
5-	-	sc	fines are nonplastic, and do not react to HCI. Clayey Sand (24 - 28) Moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI. Section has 5YR 4/4 color with 5YR 3/3 banding.					LEP-MW-6S screened from 25 - 35 ft bgs
	4325—							
- D- -	4320—	SW	Well Graded Sand (28 - 36) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~5% silt and clay. The gravel is subangular to subrounded and the sand is subangular to rounded. The fines are nonplastic, and do not react to HCI.					
5-	-							
-	4315—	SM	Sitty Sand (36 - 46) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, have the 5YR 5/4 coloring, and do not react to HCI. Starting to acquire more clay content towards 44 ft bgs.					
-0	4310—							
5-	-							

Proj	ect Na	me: PW	'S Characterization]	Project Number:136739.003							
Soil	Boring	: M	fonitoring Well: \(\bar{\sum} \) Piezometer: \(\bar{\sum} \) Boring/W	ame	e: LEP-MW-6S Sheet 3 of 3								
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks					
-	4305	sc	Clayey Sand (46 - 49) Moist to saturated, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, have the 5YR 4/4 coloring, and do not react to HCI.										
50-	-	CL	Sandy Lean Clay (49 - 51) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~35% silt and clay. The sand and gravel are angular to subangular. The fines have high plasticity, have the 5YR 4/4 coloring, and do not react to HCI.										
-	4300-		Bottom of Borehole at 51 feet below ground surface.										
-	-												
55-	- -												
-	-												
-	4295—												
-	_												
60-	-												
	4290-												
-	_												
65-	- -												
	_												
-	4285—												
-	-												
70-													

Brown and Caldwell Carson City, Nevada BORING LOG

Project Name: PWS Characterization							1	Project Number:	130739.003				
Soil	Boring	M	fonitoring Well: X Piezometer: Boring/W	ell N	lam	e: _L	EP-MV	V-7S	Sheet 1 of 2				
Bori	ng Lo	cation: On	Site, north of Pumpback Well System					57221.6	Easting: 323917.8				
Dril	ling Co	ntractor:	Cascade Drilling Inc.					levation: 4354.1 ce Elevation: 43					
Drill	ling Eq	uipment:	CS 500 Sonic Drill Rig				arted:	3/2/09	Date Finished: 3/3/09				
Drill	ling M	ethod: Sor	nic, utilized 4" core barrel			omple epth:		8 fbgs	Water Depth: 19.94 fbmp				
Sam	pling !	Method:	NA Driller: R. LaBrosse Sr.		L				STRUCTION				
Well	Seal:	NA	Borehole Diameter: 6	Type and Diameter of Well Casing: 2-inch Schedule 40 PVC									
Logg	ged By	: C. Straus	Drilling Fluid: NA	Slot Size: 0.020 Filter Material: #3 Silica Sand									
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction		Remarks				
	4350 —		No Recovery (0 - 6) No Recovery due to vacuum truck removal.					ASTM Metho procedure), un nomenclature Classification Horizontal Su State Plane (Nevada with Processing S 2703), design the North Am	of drilled cuttings based on d D-2488 (the visual-manual grain-size determinations and a based on the Unified Soil I System. But a based on the Unified Soil I System. But a based on the System (SPCS) for a Federal Information at Tandard code, 2703 (FIPS nated as Nevada State Plane in perican Datum of 1927 system D), West zone, and unit of				
	4345—	SP	Poorly Graded Sand with Silt (6 - 14) Dry, loose, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, have the 5YR 5/3 coloring, and do not react to HCI. Rusty colored (5YR 5/8) sand toward 6 ft bgs.					measuremen Sharp contac gradational c line.	t is feet. Its indicated by solid lines, ontacts indicated by dashed dashed below land surface unless				
	4340 —							PVC Stickup. Cement - Be Bentonite Ch #3 Silica San 2-inch Nomin (0.020-inch):	SN for LEP-MW-7S: : 2.20 feet. ntonite Grout: 0 - 5 feet ips: 5 - 7 feet d Filter Pack: 7 - 21 feet all Schedule 40 PVC Slotted Screen: 9 - 19 feet entonite Fill: 21 - 38 feet				
15-	-	SC SP	Clayey Sand (14 - 15) Dry. dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, have the 5YR 5/4/ coloring, and do not react to HCI. Poorly Graded Sand (15 - 17) Moist to saturated, dense, no odor. Primarily medium to				目						
	4335-	SM	fine sand with ~10% gravel to 5 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded.			П							
-	-	SM	The fines are nonplastic, and do not react to HCI. Silty Sand (17 - 18) Moist, dense, no odor. Primarily medium to fine sand with ∼5% gravel to 10 mm and ∼15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.										

Project	t Nai	me: PW	'S Characterization			_		I	Project Number:	136739.	003		
Soil Bo	ring	M	fonitoring Well: A Piezometer Boring/	Well I	Nan	ne:	_LE	P-MV	V-7S		Sheet _	2	of <u>2</u>
Depth (ff)	Elevation (famsl)	USCS Group Symbol	Material Description		Sample Name	Sample Location	Lithology	Well Construction		Remarks			
_43	30—	SC	Silty Sand (18 - 20) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have the 5YR 5/4 coloring. Clayey Sand (20 - 22.5) Saturated, dense, no odor. Primarily medium to fine			2//2///////							
25-	-	sc	sand with ~5% gravel to 5 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic. Clayey Sand (22.5 - 27) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~15-20% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic, and have the 5YR 5/4 coloring. Small clay rich lenses with high plasticity, 5YR 4/4.										
	-	CL	Sandy Lean Clay (27 - 30) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~40% silt and clay. The sand and gravel are angular to subangular. The fines have moderate to high plasticity. Section has 5YR 5/3 color with frequent spots of stong iron (5YR 4/8) staining.			A COLUMN AND A COL							
30-	120—	SM	Silty Sand (30 - 32.5) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have the 5YR 5/4 coloring.			**************************************							
	1	SW	Well Graded Sand (32.5 - 34) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.										
35-	- 115—	SP-SM	Silty Sand (34 - 38) Moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to 5 mm and ~15-20% silt and olay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI. Section has 5YR 4/4 coloring with bands of iron staining throughout (5YR 4/8).										
	-		Bottom of Borehole at 38 feet below ground surface.										
40-	-												
_43 - - 45—	-												

STATE OF NEVADA

MW-1

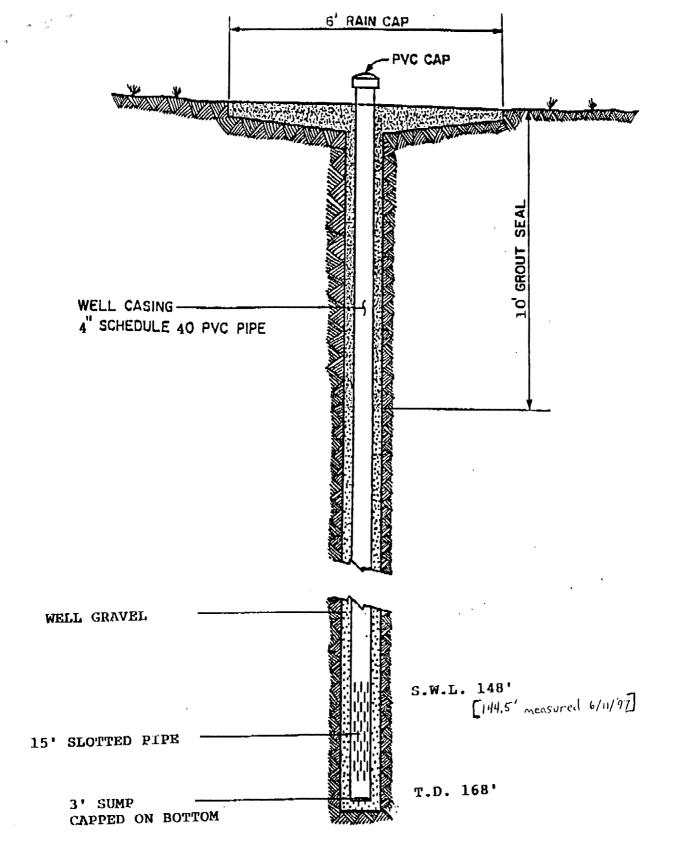
DIVISION OF WATER RESOURCES

ı	Log No. 39252
1	Parmit No.
ı	1 100

OFFICE USE ONLY

WELL.	DRII	LERS	REP	DT

,		_	Please com	plete this	form in its entirety
OWNER 7	rimete	0 60	n ser	LOIA	DDRESS 102 Burch Daive
W22A	Height	S. Ye	ringi	on,	Neuada 19447
2. LOCATION	SW 4 SU	221/4 Sec	8т.	/3	N/S R. 25 E 4.401 County
3.	TYPE OF WOR	K	4.		PROPOSED USE Monitor 5. TYPE WELL
New Well	ZZ R	econdition [- :	mestic [Irrigation 🗌 Test 🔲 Cable 🗌 Rotary 🗷
Deepen	0 0	ther [] Mu	nicipal [Industrial Stock Other
6.	LITHOLO	GIC LOG			8. WELL CONSTRUCTION
Ma	terial	Water Fr	om To	Thick- ness	8. WELL CONSTRUCTION Diameter hole 0 98 inches Total depth 66 feet Casing record Schedule 40 P.U. C.
Tailin	95 /	No	2 25	25	Weight per foot
	Brave/	NO 2	571	46	
Sand 4	Copples	No 2	1 144	23	Diameter From To feet feet
Sand 4	Cobbles	Yes 1	44166	22	feet feet
					inches feet feet
					inches feet feet feet
<u> </u>	Prings*				Surface seal: Yes No Type Carrot
<u> </u>	英				Depth of sealfeet
		ļ ——		ļ	Gravel packed: Yes No
0	1410 <u>5</u>				Gravel packed from 56 feet to 6
***	딩뽎				Perforations:
£	22				Type perforation Sak
	iii				Size perforation.
					Size perforation
	- 5				From feet to feet
					From feet to feet
					Fromfeet tofeet Fromfeet tofeet
					Profit-
					9. WATER LEVEL
					Static water level. / Life Feet below land surface
					Flow
——————————————————————————————————————					Water temperature F. Quality
M	1 10				10. DRILLERS CERTIFICATION
Date started M		······································	1	9.72	This well was drilled under my supervision and the report is true to
Date completed.	100		1	9	the best of my knowledge.
7.	WELL TE	ST DATA			Name David L. Allen
Pump RPM	G.P.M.	Draw Down	After Hours	Pumo	
	6	01	<u> </u>	· omp	Address / 2 Smith Lane Geringon Na
***************************************	arana aran aran aran aran aran aran ara	124 11 11 11			
				,	Nevada contractor's license number 10923
The state of the s	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11.5-5136 億)		-1 1 July 1	Nevada drilleris license numbes.
					A la
	BAILER	TEST			Signed and I, alle
		aw down		hours	11-1111000
3.P.M		aw down	化抗菌 化二二苯酚二甲磺胺	hours	Date M. C. y [4] [992]
G.P.M	Dr	aw down	eet	hours	・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・



MONITOR WELL MW-1

ARIMETCO, INC.

YERINGTON, NV.

Figure 12

32

CANARY-CLIENT'S COPY
PINK-WELL DRILLER'S COPY

DIVIS

STATE OF NEVADA	
SION OF WATER RESOURCES	Log No. 40319
	Permit No.

	MW-H	W	ELL D	RILLE	ER'S REPORT Basin 108	
PRINT OR TYPE ONLY	MH-27	P	lease com	plete this	form in its entirety NOTICE OF INTENT NO 19834 ADDRESS AT VELL LOCATION 2 Miles North of Yerington NXR 25 E Lyon Cou	1
1 OWNER Arimetco I	nternatio	nal, I	nc a	14 19%	NOTICE OF INTENT NO 1993	
MAILING ADDRESS 102	Burch			***************************************	Yerington	
Yerington,	Nevada 8	9447	_ mw	-2		
D. LOCATION SW	NE	<u>(8</u>	<i>≱</i> ≠	13	XXR 25 g Lyon Cou	ntv
PERMIT NO. M/O 547A	SW					
EXAGLON AND	er Resources		n reer is	-	man Sayle	
3. TYPE OF			4.		PROPOSED USE Monitor 5. TYPE WELL	
New Well	Recondition		1	nestic [ту 🛚
Deepen	Other		Mur	icipal [☐ Industrial ☐ Stock ☐ Other ☐	
6. LIT	THOLOGIC LO)G			8. WELL CONSTRUCTION Diameter 10 inches Total depth 100 fe	
Material	Water Strata	From	То	Thick- ness		et
Alluvium & Rhyocite	1	0	 	11655	inches	
Volcanics			78	78	Casing record 4" PVC 0 - 100	
Water Seam	X	78	79	1	46	
Alluvium & Rhyocite		79	1 7 9	 	Weight per footThickness	
Volcanics		-/3-	100	21	Diameter From 100 To 100 feet 100	
			100		inches feet fe	
					inches feet fe	- 1
					inches feet fe	
					inches feet fe	- 1
					inches feet fe	- 1
					Surface seal: Yes Mo D Type Cement	CH
					Depth of seal 20 fe	at
					Gravel packed: Yes ₹ No □	Ci
-					Gravel packed from 20 feet to 100 fe	et
						Č.
					Perforations:	
200	Lan.				Type perforation Skillsaw	
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<b>5</b>				Type perforation Skillsaw Size perforation 3/16" x 2½"	
<u> </u>	ာလ				From 85 feet to 100 fe	et
	انتاحا				From feet to fee	et
					Fromfeet tofee	et
					Fromfeet tofee	et
-	<u> </u>		ļ		From feet to fee	et
<u> </u>	Ш					
	<b>X</b>				9. WATER LEVEL	
****	S				Static water level	face
			<u> </u>	<u> </u>	Flow	.S.I.
Date stand	Decemb	ær 9.		10 92		
Date started	Docomi	or 10		19 92		
Date completed				., 19	This well was drilled under my supervision and the report is true to	o the
7. WE	LL TEST DAT	`A			best of my knowledge.	
		<del></del>			Name Christiansen Drilling, Inc.	
Pump RPM G.P.M	1. Draw	Down	After Hour	s Pump	557 Ely Avenue, Ely, NV 89301	
			·····		AddressContractor	
					Nevada contractor's license number 14790 issued by the State Contractor's Board	
					Nevada contractor's driller's number 641 issued by the Division of Water Resources.	
	HAILER-TEST	Air To	est		Nevada driller's license number issued by the Division of Water Resources, the on-site driller	
G.P.M. 10	Draw down	22fe	et4	hours	Signed A. II D M.	
G.P.M	Draw down	fe	et	hours	Signed By driller performing actual drilling on site or contractor	
G. P.M.	Draw down	fe	et	hours	Date January 26, 1993	

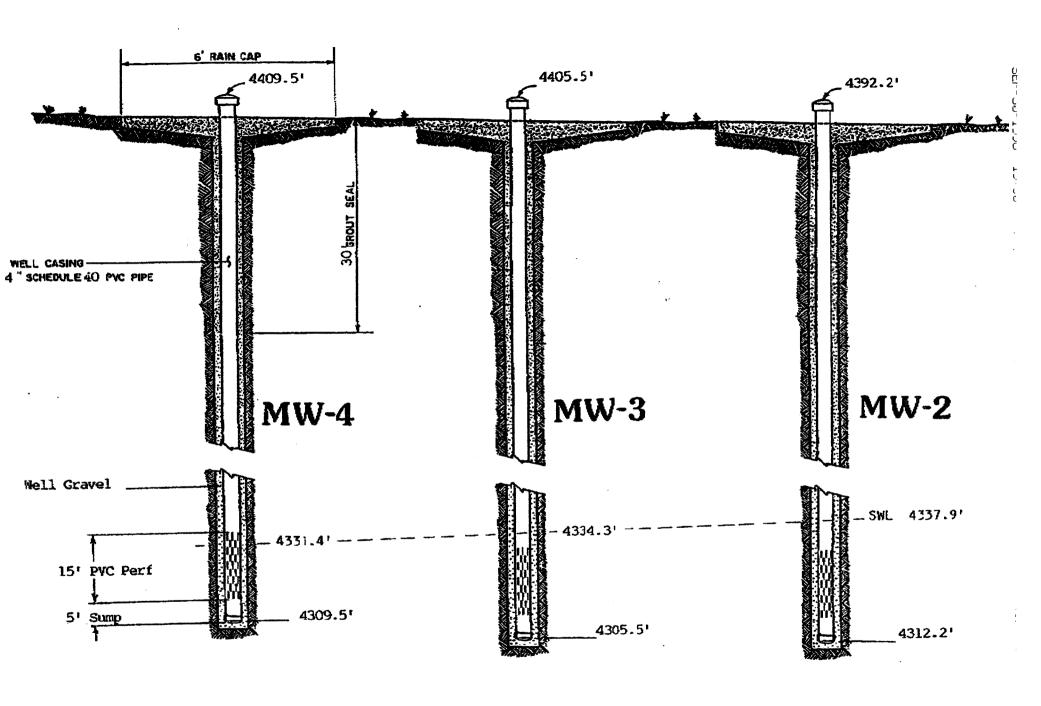


Figure 9. VLT Monitor Well Schematics (not to scale)

WHITE—DIVISION OF WATER RESOURCES CANARY—CLIENT'S COPY PINK—WELL DRILLER'S COPY

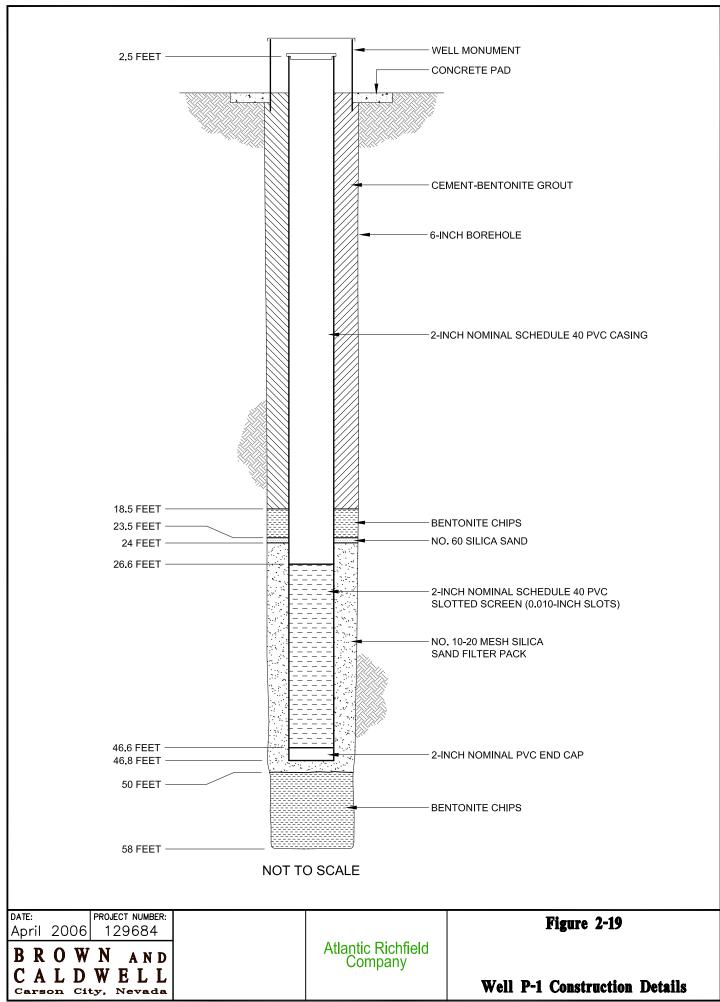
PRINT OR TYPE ONLY

#### STATE OF NEVADA DIVISION OF WATER RESOURCES

# WELL DRILLER'S REPORT

Log No. 55	FRICE USE ONI	LY N
Permit No	108	
NOTICE OF	NAME AND	6046

DO NOT WRITE ON BACK		accord	ase compr lance with	NRS 53	4.170 and NA	rety in C <b>534.340</b>				Linus
1. OWNER ARIMET	+00	T	110.	4	4 DDDD500		NOTIO	CE OF I	NTENT NO.	26046
MAILING ADDRESS 102/		The D	DA.	**********	ADDRESS A	VINC	OCATION	cati	on	
Yeungton	NU.						·····			***************************************
2. LOCATION	'/4 Se	c	<u>ا (</u>	************				400		County
PERMIT NO. 13 - W 23  Issued by Water Reso	ources	///	Parcel No.	74	***************************************		Subdivisio	n Name	*************	************************
3. WORK PERFORM	MED		4.		PROPOSED		0400111310	5.	WELL TY	DE
New Well Replace	Recond	lition		Domestic		Irrigation	☐ Test		able  Rota	
☐ Deepen ☐ Abandon ☐	Other	***************************************	!	Municipa	/Industrial	Monitor	☐ Stock	Z A		×
6. LITHOL	OGIC LO	OG			8.	WE	LL CON	STRUCT	ION	
Material	Water Strata	From	То	Thick- ness	Depth Dril	led			h Cased	Feet
MINE FILL	0	0	20	20	1		DIAME?			
ゴバナ		20	23'	3		8" Incl	_		65	Feet
SAND & GROUD	-	23	65'	42'	]	Incl		Fee		Feet
		<u> </u>	ļ		┦	Incl	hes	Fee	t	Feet
	<del>                                     </del>	<del>                                     </del>	<del>  .</del>		1	. С	ASING S	CHEDU	LE	
	/	11		7	Size O.D. (Inches)	Weight/Ft. (Pounds)	Wall T	hickness ches)	From (Feet)	To (Feet)
		Ven	TICA	(/)	4//2	DUC	Sch		42	651
		11	1							
	1	17	0/2		<u> </u>		<u> </u>			<u> </u>
	<del></del>	, ,			Perforation	s: erforation	FA	tor		
		<u> </u>		<del> </del>	Size pe	rforation. C	2.25	000	A.F	
					From	50'	fee	t to	651	feet
						***********************			*******	
1,23					From		fee	t to	************	
<del>_</del>		ļ			From			t to		feet
<del>2</del> <del>2</del> <del>5</del>		<u> </u>			Surface Se	al: ZYes	, $\square$ N	0	Seal Ty	pe: eat Cement
					Depth of Se	Method:		***********		eat Cement ement Grout
							Poured		□с	oncrete Grout
- H					Gravel Paci	ked: 🗷 Y	es 🗆 :	No	11 L L L St	
					From	50'	fee		65'	feet
					9.	47 년 - 1 - 1 1 1 4 1 2 2 4 - 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	WATER	LEVEL	ing a separate participant of the	er of pg. avold offi official
- 1 86 W.					Static water	level	57'	***************	feet below	v land surface
<u>97</u>					Artesian flo				G.P.M.	P.S.I.
					Water temp		°F		TURB	<u> </u>
		L	<u> </u>		10.		LER'S CI			
Date started C	20		****************	, 19. <b>9</b>	best of my	as ariilea unc knowledge	ier my suj	pervision	and the report	is true to the
Date completed CO	20			, 19.91	Name 🗸	euch	De	elli	is In	<b>!</b>
	EST DAT				i est	Do A	Box .	Contractor 49	0	
TEST METHOD:   Bai		Pump	Air Li	ift	Address	7 6	2	Contractor	*********	
G.P.M. (Feet	raw Down Below Statio	2)	Time (Hou	rs)	XIL	w)	Pri	uga_	NV.	89429
2 130	Hom	2	HA	,		tractor's licer			MA 3	1841
	OF			1 13	11	the State Cor ler's license i	and of the deep of the con-		—ar ve epseege — e L -	
<i>H</i>	ole.				Division	of Water Reso	ources, the	opay-site (	irijler 17	40
	·		······································		Signed	athe	ist c	R.0	Earl	
:					]	By driller p	erforming a	ctual drilling	g on site or cont	ractor
	4 549 J. 1 190				Date	100 1	7/9	.J		***************************************



Proje	Yerington Groundwater In			Well	Numb	er:	<u>P-1</u>					
Soil Boring Monitoring Well Number 1								12	2124	13.021		eet <u>1</u> of <u>7</u>
Borin	ng Loca	ation:	On mine site, between lined	evaporatin ponds		Ele	evatior	n: <b>4</b> 4	00.	0 feet amsl	East: North	321698 1556693
Drilli	ng Coi	ntract	or: WDC	Driller: <b>B. Zamow</b>			ate Sta	rted:	9/2	7/05	Date Finished:	9/27/05
Drilli	ng Equ	iipme	nt: Gus Pech GP24-400RS, I	Dietrich Sonic			otal epth: (f	eet)	58.	0	Water Depth: (feet)	44'
Samp	oling M	lethoo	i: Core Barrel	Borehole Diameter: 6"	1		ell Dia d Mate			inch PVC	•••••	
Drilli	ng Me	thod:	Sonic, utilized 6" casing an	d a 4.5" core barrel			reened d Well			26.6-46.6	ft., bottom a	t 46.8 ft.
Well	Seal:	Ber	tontite and Cement			Slo	ot Size	: 0.0	)20	'' Filter Ma	terial: # <b>10-2</b> 0	) Silica Sand
Logg	ed By:	C.	Gardner	***************************************		Dε	evelopi	nent N	/leth	od: Swabl	bed, bailed, j	oumped
								nic Lo			***************************************	
Depth (feet)	Elevation (feet)	ıp Syı			Ž	5	) S	3				
epth (	vatioı	Grou	Description		Sample No	Sample	Lithology		well		Remar	ks
Ď	Ele	USCS Group Symbol			Ď		Lii L					
		1	Vat Leach Tailings (0-2.25 feet) Dry, loose, no odor.				000 000 000		×	Descriptions	s of drilled cutti Method D-2488	ngs based
_			Primarily coarse to medium sand wit ~40% gravel to 20 mm and ~20% sil	h t and clay. The sand and	4		000 000 000			visual-manu	al procedure), g	rain-size
			gravel is angular. The fines are nonpreact to HCl.	lastic, yellow, and do not			000 000 000			based on the	e Unified Soil C Insell colors des	lassification
-					-		000 000 000					
							000 000 000					
					1						cts indicated by contacts indicat	
_					_		000 000 000			dashed line.		,
										All depths a	are below land s	urface
-					-					unless stated	d otherwise.	
							000 000 000			WELL DEC	SIGN.	
-					4		000 000 000			WELL DES Screened In	oiGN: terval: 26.6-46.0	5 feet.
							000 000 000				ump: 46.8 feet.	, 10011
-					-		000 000 000					
							000 000 000	$\circ d$			out: 0-18.5 feet.	
							000 000 000	/√W			Chips:18.5-23.5	
5—	4395				4		000 000 000	≠VIV		#10-20 San	#60 Sand 23.5-d 24-50 feet.	
9							000 000 000			Bentonite C	Chips: 50-58 feet	
-					1		000 000 000					
_							000 000 000					
										Top of PVC	ater Measuring Casing.	
[ -					4					Top of PVC amsl.	Elevation: ~xx	xx feet
											up: 2.5 feet abov	e land
					$\dashv$					surface.		
							000 000 000					
					1		000 000 000					
3							000 000		Š			

### **BORING LOG**

**Yerington Groundwater Investigation** Well Number: Project Name: <u>2</u> of .  $\mathbf{X}$ 121243.021 Monitoring Well Sheet Soil Boring Project Number: JSCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 4390 10. 4385 15 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 **CLAYEY GRAVEL with SAND** (16.5-17 feet) Moist to saturated, loose, no odor. Primarily gravel to ~20 mm with ~35% coarse to fine sand and ~25% silt and clay. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, GC are yellow, and do not react to HCI.

ASPHAULT LINER (17-17.1 feet)

CLAYEY GRAVEL with SAND (17.1-18 feet) Moist to saturated, loose, no odor. Primarily gravel to ~20 mm with ~35% coarse to fine sand and ~25% silt and clay. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, are yellow, and do not react to HCl.

### **BORING LOG**

Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 **3**_ of .  ${f X}$ Monitoring Well Soil Boring Sheet Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SANDY LEAN CLAY (18-21 feet) Dry to moist, firm, no odor. Primarily silt and clay with ~40% medium to fine sand to ~2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and do not react to HCl. 4380 **SILTY SAND** (21 -21.5 feet) Dry to moist, medium dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and have a weak reaction to HCl. **SILTY SAND** (21.5 -22.5 feet) Dry to moist, medium dense, no odor. Primarily medium to fine sand to ~2 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines have low plasticity and toughness, are brown, and do not react to SM SILTY SAND (22.5-25 feet) Dry, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to ~10 mm and ~20% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. 25 CLAYEY SAND (25-25.5 feet) Moist, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to ~8 mm and ~40% silt and clay. The sand and gravel is subangular to subrounded. The fines have medium plasticity and toughness, SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 are yellowish brown, and do not react to HCl. CLAYEY SAND (25.5-26 feet) Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to ~10 mm and ~30% silt and clay. The sand and gravel is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl. CLAYEY SAND (26-27 feet) Dry, dense, no odor. Primarily medium to fine sand with ~5% coarse sand to ~5 mm and ~40% silt and clay. The sand and gravel is subangular to subrounded. The fines have medium plasticity SW- and toughness, are brown, and react strongly to HCl. SANDY LEAN CLAY (27-27.5 feet) Dry to moist, stiff, no odor. Primarily silt and clay with ~50% medium to fine sand and trace gravel to ~8 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness are brown (10YR 4/3), and reacts strongly to HCl. WELL-GRADED SAND with SILT (27.5-28 feet) Dry, medium dense, no odor.

### **BORING LOG**

Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 **4**_ of  $\mathbf{X}$ Soil Boring Monitoring Well Sheet Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily medium to fine sand with trace fine gravel to 10 CL mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and do not react to HCl. SILTY SAND (28-29 feet) Dry, dense, no odor. Primarily medium to fine sand with ~5% coarse sand to ~3 4370 30 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. SANDY LEAN CLAY (29-30 feet) Dry to moist, stiff, no odor. Primarily silt and clay with  $\sim 30\%$  fine sand (<1/2 mm). The sand is subangular to subrounded. The fines have medium SM plasticity and toughness, are brown (10YR 5/3), and react strongly to HCl. CLAYEY SAND (30-31 feet) Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to ~12 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines have medium plasticity, low toughness, are yellowish brown, and do no react to strongly react to HCl. SILTY SAND (31-33 feet) Dry to moist, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to ~8 mm and ~20% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, react strongly at the top of the interval, and do not react to HCl in the lower portion of the interval. WELL-GRADED SAND with SILT (33-35 feet) Dry to moist, medium dense, no odor. Primarily medium to fine sand with  $\sim$ 5% fine gravel to  $\sim$ 10 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and do not react to HCl. 4365 35 WELL-GRADED SAND with SILT (35-39 feet) Dry to moist, medium dense, no odor. Primarily medium to fine sand to ~10 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 SILTY SAND (39-40 feet) Dry to moist, medium dense, no odor.

### **BORING LOG**

Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 **5**_ of .  $\mathbf{X}$ Monitoring Well Soil Boring Sheet Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily medium to fine sand with ~5% gravel to ~10 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, brown, and do not react to HCl. 40 SILTY SAND (40-41 feet) Dry, medium dense, no odor. Primarily medium to fine sand with  $\sim 10\%$  gravel to  $\sim 12$  mm and  $\sim 15\%$  silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, brown, and do not react to HCl. SM SILTY SAND (41-43 feet) Dry, medium dense, no odor. Primarily medium to fine sand with ~5% coarse sand to ~4 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. SANDY LEAN CLAY (43-43.25 feet) Dry to moist, stiff, no odor. SM Primarily silt and clay with ~40% medium to fine sand to ~2 mm. The sand is subangular to angular. The fines have medium plasticity and toughness, are brown (10YR 4/3), and react strongly to HCl. SILTY SAND (41-43 feet) Moist, medium dense, no odor. Primarily medium to fine sand to ~2 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl WELL-GRADED SAND (44-45.5 feet) Saturated, medium dense, no odor. 4355 45 Primarily medium to coarse sand with ~15% gravel to ~10 mm and ~5% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl.

WELL-GRADED SAND with SILT (45.5-47.75 feet)
Saturated, medium dense, no odor. SM Primarily medium to fine sand with ~5% gravel to ~8 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 SM | SILTY SAND (47.75-49 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~10% coarse sand to ~5 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and do not react to HCl. WELL-GRADED SAND with SILT (49-50 feet) Saturated, medium dense, no odor. Primarily medium to coarse sand with  $\sim 15\%$  gravel to  $\sim 15$ mm, ~15% fine sand, and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines

### **BORING LOG**

Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 **6** of  ${f X}$ Monitoring Well Sheet . Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well are nonplastic, brown, and have no reaction to HCl. 50. SM **SILTY SAND** (50-51.25 feet) Saturated, medium dense, no odor. Primarily medium to coarse sand to ~5 mm, ~15% fine sand, and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. CLAYEY SAND (51.25-52 feet) Moist, medium dense, no odor. Primarily medium to fine sand to ~2 mm and ~25% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and react strongly to HCl. SILTY SAND (52-54 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~10% coarse and to ~3 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. SILTY SAND (54-54.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~10% coarse and to ~3 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. SANDY LEAN CLAY (54.5-54.75 feet) SM 4345 55 Moist, stiff, no odor. Primarily silt and clay with ~50% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have SM medium plasticity and toughness, are brown (10YR 4/3), and react strongly to HCl CL **SILTY SAND** (54.75-55.25 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~2 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. SANDY LEAN CLAY (55.25-55.5 feet) Moist, stiff, no odor. Primarily silt and clay with ~50% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 medium plasticity and toughness, are brown (10YR 4/3), and react strongly to HCl. SILTY SAND (55.5-55.75 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~2 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl.

SANDY LEAN CLAY (55.75-56 feet) Moist, stiff, no odor. Primarily silt and clay with ~50% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 4/3), and react strongly to HCl.
SILTY SAND (56-56.25 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~2 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. CLAYEY SAND (56.25-57 feet) Dry to moist, dense, no odor. Primarily medium to fine sand to ~2 mm and ~40% silt and

SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06

### **BORING LOG**

Well Number:  $\mathbf{P-1}$ **Yerington Groundwater Investigation** Project Name: 121243.021 **7** of _  $\mathbf{X}$ Monitoring Well Sheet . Soil Boring Project Number: JSCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and react strongly to HCl.

SILTY SAND (57-58 feet)

Saturated, medium dense, no odor. Primarily medium to coarse sand to ~4 mm, ~20% fine sand, and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl.

Proj	ect Nar	ne:	Yerington Groundwater Investigation		Well N	umber:	PA-N	<u>/IW1</u>
Soil	Boring		Monitoring Well X Project Number	oer:		1262	59.001	Sheet <u>1</u> of <u>7</u>
Bori	ing Loc	ation:	Process Area	Lai Ele		4437.	.2 feet amsl	East: 325687.236 North: 1546291.713
Dril	ling Co	ntract	or: WDC Driller: J. Love			ed: 1/2	24/05	Date Finished: 1/25/05
Dril	ling Eq	uipme	ent: GEFCO 15L with Sonicor 50K Drill Head	To De		t) 12	6.0	Water Depth: (feet) 93' / 92.2'
Sam	pling N	1etho	d: Core Barrel Borchole Diameter: 6"	anc	ll Diam I Materi	al: <b>2</b>	-inch Nomi	inal Dia., SCH40 PVC
Dril	ling Me	thod:	Sonic		eened I   Well I		90.5-110.5	ft., bottom at 111 ft.
Wel	l Seal:	Bei	ntonite and Cement	Slo	t Size:	0.020	Filter Mat	terial: #3 Monterey Sand
Log	ged By:	C.	. Gardner	De	velopme	ent Meth	od: Swabl	oed, bailed, pumped
Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Water Level	Graphic Graphic	Log		Remarks
	4435	SC	WELL GRADED SAND with GRAVEL (0-1.5 feet) Dry, very dense, no odor. Predominately medium to fine sand with ~15% fine gravel to 12 mm and ~5% silt and clay. The gravel is angular to subangular, the sand is subangular to subrounded. The fines do not react to HCl.  CLAYEY GRAVEL with SAND (1.5-3 feet) Dry, dense, no odor. Predominately fine gravel to 20 mm with ~30% medium sand and ~30% silt and clay. The gravel is subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness and a strong reaction to HCl.  POORLY-GRADED SAND (3-5 feet) Dry, dense, no odor. Predominately medium sand with trace coarse sand to 3 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic have a strong reaction to HCl.				on ASTM N visual-manu determinatic based on the System. Mu	s of drilled cuttings based Method D-2488 (the hal procedure), grain-size has and nomenclature to Unified Soil Classification hasell colors described wet.  ets indicated by solid lines, contacts indicated by
5-		SW- SM	WELL-GRADED SAND with SILT (5-7 feet) Dry, medium dense, no odor. Predominately medium to fine sand with ~5% fine gravel to 10 mm and ~10% silt and clay. The gravel and sand is subangular to subrounded. The fines are nonplastic and have a strong reaction to HCl.				Bottom of su Cement Grou Bentonite Ch	erval: 90.5-110.5 feet imp: 111 feet ut: 0-10 feet hips: 10-86 feet
00000 MENTAL TENNING TONING TONING THE TONING TONING THE TONING TONING THE TO	4425	SIVI	SANDY LEAN CLAY (7-8 feet) Dry, hard, no odor. Predominately silt and clay with ~50% fine to medium sand and trace fine gravel to 8 mm. The gravel is angular to subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, are dark brown (7.5YR 3/3), and do not react to HCl.  SILTY SAND (8-16 feet) Dry, medium dense, no odor. Predominately medium to fine sand with trace fine gravel to 10 mm and ~25% silt and clay. The gravel is subangular, the sand is subangular to subrounded. The fines have low plasticity and toughness and a strong reaction to HCl.				Sand 87-126 Depth to Wa Top of Steel Elevation: ~4 Stick-up: ~3.	nter Measuring Point is Monument, 4,441.04 feet amsl .8 feet above land surface. re below land surface

Pro	ject Na	ime:	Yerington Groundwater Investigation		V	Vell Nu	mber:	PA-MW1		
Soi	l Borin	<u>~</u>	Monitoring Well X Project Num	nber:		·	12625	59.001	Sheet 2	of 7
		loqu			(	Graphic	Log			- 01
Depth (feet)	Elevation (feet)	USCS Group Symbol	Description		Water Level	Lithology	Well	1	Remarks	
20-	4420	SC	Dry, medium dense, no odor.  Predominately medium to fine sand with ~10% fine to coarse gravel to 25 mm and ~30% silt and clay. The gravel is angular to subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness.  NO RECOVERY  CLAYEY SAND (21-22 feet)  Dry, medium dense, no odor.  Predominately medium to fine sand with ~10% fine gravel to 10 mm and ~25% silt and clay. The gravel is angular to subangular for subangu							
25	4410	CL SM CL SM	the sand is subangular to subrounded. The fines have medium plasticity and toughness and a strong reaction to HCl.  SANDY LEAN CLAY (22-22.5 feet)  Dry, hard, no odor.  Predominately silt and clay with ~25% fine to medium sand and trace fine gravel to 8 mm. The gravel is angular to subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, are dark gray (7.5YR 4/1), and have a strong reaction to HCl.  SILTY SAND with GRAVEL (22.5-25.5 feet)  Dry, medium dense, no odor.  Predominately medium to fine sand with ~15% fine gravel to 15 mm and ~20% silt and clay. The gravel is subangular, the sand is subangular to subrounded. The fines are nonplastic and have a strong reaction to HCl.  SANDY LEAN CLAY (25.5-25.75 feet)  Dry to moist, hard, no odor.  Predominately silt and clay with ~45% fine to medium sand and ~5% fine gravel to 15 mm. The gravel is angular to subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and have a strong reaction to HCl.  SILTY SAND with GRAVEL (25.75-27.5 feet)  Dry, very dense, no odor.  Predominately medium to fine sand with ~15% fine gravel to 15 mm and ~20% silt and clay. The gravel is subangular, the sand is subangular to subrounded. The fines are nonplastic and have a strong reaction to HCl.  SANDY LEAN CLAY (27.5-28 feet)  Dry, hard, no odor.  Predominately silt and clay with ~45% fine to medium sand and ~5% fine gravel to 15 mm. The gravel is angular to subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and have a strong reaction to HCl.  SANDY LEAN CLAY (27.5-28 feet)  Dry, very dense, no odor.  Predominately medium to fine sand with ~15% fine gravel to 15 mm and ~20% silt and clay. The gravel is subangular, the sand is subangular to subrounded. The fines are nonplastic and have a strong reaction to HCl.  SANDY LEAN CLAY (30-31 feet)							
-			Dry to moist, hard, no odor.  Predominately silt and clay with ~45% fine to medium sand and ~5% fine gravel to 15 mm. The gravel is angular to exhangular	-						

#### **BORING LOG**

PA-MW1 **Yerington Groundwater Investigation** Well Number: Project Name: 126259.001 Sheet <u>3</u> of <u>7</u> X Monitoring Well Project Number: Soil Boring SCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Water Level Lithology Remarks Description Well the sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and have a 35 strong reaction to HCl SILTY SAND with GRAVEL (31-37.5 feet) Dry, medium dense, no odor. Predominately medium to fine sand with ~15% fine gravel to 15 mm and ~20% silt and clay. The gravel is subangular, the sand is subangular to subrounded. The fines are nonplastic and have a strong reaction to HCl. 4400 SANDY LEAN CLAY (37.5-38 feet) CL Dry, hard, no odor. SM Predominately silt and clay with ~45% fine to medium sand and ~5% fine gravel to 12 mm. The gravel is angular to subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and have a strong reaction to HCl SILTY SAND with GRAVEL (38-45.5 feet) Dry, very dense, no odor. 40 Predominately medium to fine sand with  $\sim 15\%$  fine to coarse gravel to 30 mm and  $\sim 20\%$  silt and clay. The gravel is angular to subangular, the sand is subangular to subrounded. The fines are nonplastic and have a strong reaction to HCl. 4395 45 SANDY LEAN CLAY (45.5-46 feet) Dry, hard, no odor. Predominately silt and clay with ~45% fine to medium sand and ~5% fine gravel to 15 mm. The gravel is angular to subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (7.5YR 5/4), and have a 4390 strong reaction to HCl LEAN CLAY (46-48 feet) Dry, hard, no odor. CL Predominately silt and clay with ~10% fine to medium sand and BRN&CALD.GDT trace coarse sand to 5 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are grayish brown (10YR 5/2), and have a strong reaction to HCl. SANDY LEAN CLAY (48-53.5 feet) Dry, hard, no odor. Predominately silt and clay with ~30% fine to medium sand and trace coarse sand to 5 mm. The gravel is angular to subangular, the sand is subangular to subrounded. The fines have medium METHOD NO SAMPLE YERINGTON.GPJ plasticity and toughness, are brown (7.5YR 5/2), and have a strong reaction to HCl. 4385 POORLY-GRADED SAND (53.5-58.5 feet) Dry, very dense, no odor.

Proje	ect Nam	ie:	Yerington Groundwater Investigation	\	Well Nu	mber:	PA-	<u>MW1</u>	
Soil	Boring	Ε	Monitoring Well  Project Number	:		12625	9.001	Sheet	_4_ of _7_
Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Water Level	Lithology Lithology	Log MeII		Remarks	
55-	4380		Predominately medium sand with ~5% fine gravel to 20mm and ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic and have no reaction to HCl.			,			
60-	4375	SM	SILTY SAND with GRAVEL (58.5-71 feet) Dry, very dense, no odor. Predominately medium to fine sand with ~20% fine to coarse gravel to 25 mm and ~20% silt and clay. The gravel is angular to subangular, the sand is subangular to subrounded. The fines have low plasticity and toughness and have a weak reaction to HCl.						
ON.GPJ BRN&CALD.GDJ 5/25/05 - 20 - 20 - 20 - 20 - 20 - 20 - 20 - 20	4370								
SONIC METHOD NO SAMPLE YERING TON.GR.	4365	SM CL	WELL-GRADED SAND with SILT and GRAVEL (71-71.5 feet) Dry, very dense, no odor. Predominately coarse to medium sand with ~25% fine gravel to 20 mm and ~10% silt and clay. The gravel is angular to subangular, the sand is subangular to subrounded. The fines are nonplastic and have a strong reaction to HCl.  SANDY LEAN CLAY (71.5-73 feet) Dry, hard, no odor. Predominately silt and clay with ~40% fine to medium sand and						

#### **BORING LOG**

PA-MW1 Yerington Groundwater Investigation Well Number: Project Name: 126259.001 Sheet <u>5</u> of <u>7</u> X Monitoring Well Project Number: Soil Boring Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Water Level Lithology Remarks Description Well ~10% fine gravel to 15 mm. The gravel is subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, are grayish brown (10YR 5/2), and have a strong reaction to HCl.

WELL-GRADED SAND with SILT and GRAVEL (73-76 feet) 75 Dry, very dense, no odor. Predominately medium to fine sand with ~20% fine gravel to 15 mm and ~10% silt and clay. The gravel and sand are subangular to subrounded. The fines are nonplastic and have a strong reaction to HCl SANDY LEAN CLAY (76-76.5 feet) Dry, hard, no odor. 4360 Predominately silt and clay with ~40% fine to medium sand and ~10% fine gravel to 15 mm. The gravel is subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, are grayish brown (10YR 5/2), and have a strong reaction to HCl.

WELL-GRADED SAND with SILT and GRAVEL (76.5-78 feet) Dry, very dense, no odor. Predominately medium to fine sand with ~20% fine gravel to 15 mm and  $\sim 10\%$  silt and clay. The gravel and sand are subangular 80 SM to subrounded. The fines are nonplastic and have a strong reaction to HCl.
SANDY LEAN CLAY (78-79.5 feet) Dry, hard, no odor. Predominately silt and clay with ~30% fine to medium sand and trace coarse sand to 5 mm. The gravel is angular to subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (7.5YR 5/2), and have a 4355 strong reaction to HCl SILTY SAND with GRAVEL (79.5-80 feet) Dry, very dense, no odor. Predominately medium to fine sand with ~15% fine to coarse gravel to 25 mm and ~15% silt and clay. The gravel is angular to subangular, the sand is subangular to subrounded. The fines are nonplastic and have a strong reaction to HCl SILTY SAND (80-88.5 feet) Dry, very dense, no odor. Predominately medium to fine sand with ~10% fine gravel to 15 mm and  $\sim$ 20% silt and clay. The gravel is subangular, the sand is subangular to subrounded. The fines are nonplastic and have a 85 strong reaction to HCl. METHOD NO SAMPLE YERINGTON GPJ BRN&CALD.GDT 5/25/0! 4350 SANDY LEAN CLAY (88.5-100 feet) Moist to saturated, hard, no odor. Predominately silt and clay with ~45% fine to medium sand and ~5% fine to coarse gravel to 30 mm. The gravel is subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and do 90 not react to HCl. 4345 Measured 2/7/2005 Measured in borehole

Projec	et Name	e:	Yerington Groundwater Investigation	_ \	Well Number: PA-MW1						
Soil B	Boring	Г	Monitoring Well Project Number:		126259.001 Sheet <u>6</u> of <u>7</u>						
Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Water Level	Lithology Lithology	Log Nog	Remarks				
95	4340										
	4335	CL	SANDY LEAN CLAY (100-102 feet) Dry, hard, no odor. Predominately silt and clay with ~45% fine to medium sand and trace fine gravel to 8 mm. The gravel is subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, are light olive brown (2.5Y 5/4), and do not react to HCl.  SANDY LEAN CLAY (102-109 feet) Dry, hard, no odor. Predominately silt and clay with ~40% fine to medium sand and trace fine gravel to 5 mm. The gravel is subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, are light olive brown (2.5Y 5/4), and do not react to HCl.								
105 —	4330		-								
ONC ME HOD NO SAMPLE TERING TON OF J BRANCALD OF J	4325	CL	SANDY LEAN CLAY (109-112 feet) Dry, hard, no odor. Predominately silt and clay with ~45% fine to medium sand and ~5% gravel. The gravel is subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/6), and do not react to HCl.  INTERBEDDED POORLY-GRADED SAND and SANDY								
SI .	-		LEAN CLAY (112-117 feet) Thinly interbedded (~1 cm thick).	1		1					

#### **BORING LOG**

PA-MW1 Well Number: **Yerington Groundwater Investigation** Project Name: 7 of 7 126259.001 Sheet .  $\mathbf{X}$ Project Number: Monitoring Well Soil Boring Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Lithology Water Leve Remarks Description Well POORLY-GRADED SAND Dry to moist, dense, no odor. Predominately coarse to medium sand to 5 mm with trace fine sand and ~5% silt and clay. The sand is subangular. The fines are nonplastic and do not react to HCl. SANDÝ LEAN CLAY Moist to saturated, stiff, no odor. 15 Predominately silt and clay with ~45% coarse to medium sand and ~5% fine gravel to 20 mm. The gravel is subangular, the sand is subangular. The fines have medium plasticity and toughness, are grayish brown (2.5Y 5/2), and do not react to HCl. 4320 CL SANDY LEAN CLAY (117-119 feet) Moist to dry, hard, no odor. Predominately silt and clay with ~35% fine to medium sand, ~5% gravel, and ~10% cobbles to >100 mm. The cobbles are subangular gneiss, the gravel is subangular, and the sand is subangular to subrounded. The fines have medium plasticity and toughness, are gray (2.5Y 5/1), and do not react to HCl. SANDY LEAN CLAY (119-120 feet) Moist to saturated, stiff, no odor. Predominately silt and clay with ~30% fine to medium sand and ~5% fine gravel to 20 mm. The gravel is subangular, the sand is subangular to subrounded. The fines have medium plasticity and 20 toughness, are gray (2.5Y 5/1), and do not react to HCl. GW- WELL-GRADED GRAVEL with SILT (121-122 feet) GM Dry, dense, no odor. Predominately gneissic cobbles to 3 inches with ~30% gravel and 10% silt and clay. The cobbles are subangular, the gravel is 4315 CL subangular. The fines have medium plasticity and toughness and do not react to HCI.

SANDY LEAN CLAY (122-123 feet)

Moist to dry, hard, no odor. Predominately silt and clay with ~35% fine to medium sand, ~5% gravel, and ~10% cobbles to >100 mm. The cobbles are subangular gneiss, the gravel is subangular, and the sand is subangular to subrounded. The fines have medium plasticity and toughness, are gray (2.5Y 5/1), and do not react to HCl. GW-SANDY LEAN CLAY (123-124.5 feet)

GM Dry, hard, no odor.

CL Predominately silt and clay with ~30% fine to medium sand and ~10% fine to coarse gravel to 40 mm. The gravel is subangular, the sand is subangular to subrounded. The fines have medium 125 plasticity and toughness, are gray (2.5Y 5/1), and do not react to WELL-GRADED GRAVEL with SILT (124.5-125 feet) BRN&CALD.GDT Dry, dense, no odor. Predominately gneissic cobbles to 3 inches with ~30% gravel and -10% silt and clay. The cobbles are subangular, the gravel is subangular. The fines have medium plasticity and toughness and do not react to HCL SANDY LEAN CLAY (125-126 feet) YERINGTON.GPJ Dry, hard, no odor. Predominately silt and clay with ~45% fine to medium sand and -5% fine to coarse gravel to 50 mm. The gravel is angular to subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, are light yellowish brown (2.5Y 6/3), and do not react to HCl. SONIC METHOD NO SAMPLE

# BROWN AND CALDWELL BORING LOG

Proje	ct Nam	e:	Yerington Groundwater Ir	vestigation		We	ell Nun			<u>MW2</u>		
Soil l	Boring		Monitoring Well X	Project Number	702			1262	59.001		et 1 of 9	
Boring Location: Process Area						nd vat	tion:	4481.	6 feet amsl	East: North:	322936.938 1547233.463	
Drilling Contractor: WDC Driller: J. Love							Started	1/2	20/05	Date Finished:	1/21/05	
Drill	Drilling Equipment: GEFCO 15L with Sonicor 50K Drill Head						Total Water Depth: (feet) 159.0 (feet) 140' / 139.2'					
Sam	oling M	ethoc	: Core Barrel	Borehole Diameter: 6"	🎇 and	Well Diameter and Material: 2-inch Nominal Dia., SCH40 PVC						
Drill	ing Me	hod:	Sonic		N	Screened Interval and Well Depth: 134.5-154.5 ft., bottom at 155 ft.						
Well	Seal:	Ber	tonite and Cement		Slo	Slot Size: 0.020" Filter Material: #3 Monterey Sand						
Logg	ed By:	C.	Gardner		De	Development Method: Swabbed, bailed, pumped						
	£	mbol			-	Gr	aphic I	_og				
Depth (feet)	Elevation (feet)	USCS Group Symbol	Description		evel		ogy	=		Remar	ks	
Depth	levatie	S Gro	Sostifica		Water Level		Lithology	Well				
	ш			1.60	_ =	1	7.7.	or Ro	Deceriation	ns of drilled cutting	age haead	
		SM	SILTY SAND with GRAVEL (0- Moist, dense, no odor. Predominately medium to fine sand		+				on ASTM l visual-man	Method D-2488 ( ual procedure), g	(the rain-size	
.	1,100	SM	mm and ~15% silt and clay. The grathe sand is subangular to subrounder	wel is annular to subrounded 🕳	-				determinati based on th	ions and nomenc the Unified Soil C	lature lassification	
	4480		and do not react to HCI.  SILTY SAND with GRAVEL (1-:	5 feet)	]				System. Mi	unsell colors desc	eribed wet.	
			Same as above but dry and medium	dense.	4							
					-				Sharp cont	acts indicated by	solid lines,	
					1				gradational dashed line	l contacts indicat c.	ed by	
5-		SC	CLAYEY SAND with GRAVEL	(5-10 feet)					WELL DE	SIGN:		
			Dry, medium dense, no odor. Predominately medium to fine sand ~20% fine gravel to 15 mm and ~20	with ~20% coarse sand, % silt and clay. The gravel is	1					nterval: 134.5-15 sump: 155 feet	4.5 feet	
	4475		angular to subangular, the sand is su The fines have medium plasticity an	bangular to subrounded.	4				Bentonite (	out: 0-10 feet Chips: 10-130 fee	et	
	1		reaction to HCl.		1				Filter Pack Sand 131-1	: #60 Sand 130-1	131 feet, #3	
	]				1				Top of PV	Vater Measuring C Casing,		
20102	_				4				Stick-up: ~	~4,484.38 feet at 2.8 feet above la	nd surface.	
5	1				+				above land	ŕ		
	1								All depths unless state	are below land s ed otherwise.	urface	
10-	]	SW- SM	feet)	T and GRAVEL (10-16	1	[						
25.55	-		Dry, loose, no odor. Predominately medium to fine sand gravel to 30 mm and ~10% silt and	with ~25% fine to coarse	-							
Y Y	4470		subangular, the sand is subangular to nonplastic and do not react to HCl.	o subrounded. The fines are	1							
1	1				]	ŀ						
OAMI	-				4							
000	-				1	ŀ						
SEL	1				1	ŀ						
2	1				1	E						

Projec	Project Name: Yerington Groundwater Investigation			\	Well Number: PA-MW2					
Soil Boring [			Monitoring Well X Project Number:			12625	59.001 Sheet 2 of 9			
Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Water Level	Tithology Prince	Log NeII	Remarks			
- - -	4465		WELL-GRADED SAND with SILT and GRAVEL (16-19 feet) Same as above but medium dense.							
20-	4460	SC	CLAYEY SAND with GRAVEL (19-22 feet) Dry, very dense, no odor. Predominately medium to fine sand with ~15% fine to coarse gravel to 30 mm and ~30% silt and clay. The gravel is angular to subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness and do not react to HCl.							
		SM	SILTY SAND (22-24 feet) Dry, very dense, no odor. Predominately medium to fine sand with ~20% coarse sand, ~10% fine to coarse gravel to 30 mm and ~20% silt and clay. The gravel is angular to subangular, the sand is subangular to subrounded. The fines are nonplastic and do not react to HCl.							
25-		SC	CLAYEY SAND (24-31.5 feet) Dry, very dense, no odor. Predominately medium to fine sand with ~10% fine to coarse gravel to 30 mm and ~35% silt and clay. The gravel is angular to subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness and do not react to HCl.							
	4455									
30-	1			-						
ONIC ME : DOD NO SAMPLEL : CENTROLOGICS S	<u>-4450</u>	SC	CLAYEY SAND (31.5-39 feet)  Dry, very dense, no odor.  Predominately medium to fine sand with ~5% fine gravel to 15 mm and ~40% silt and clay. The gravel is angular to subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness and do not react to HCl.	-						

11	ojec	t Nam	ie:	Yerington Groundwater Investigation	'	Vell Nu		PA-IVI VV Z
So	oil B	l Boring Monitoring Well X Project Number					1262	259.001 Sheet <u>3</u> of <u>9</u>
Proof. (Pro)	Deptin (reet)	Elevation (feet)	USCS Group Symbol	Description	Water Level	Lithology Lithology	Log No:II	Remarks
3:	5-			-				
		4445						
4	-	4440	SM	SILTY SAND with GRAVEL (39-45 feet) Dry, very dense, no odor. Predominately medium to fine sand with ~20% coarse sand, ~10% fine gravel to 12 mm, and ~15% silt and clay. The gravel is angular to subangular, the sand is subangular to subrounded. The fines are nonplastic and do not react to HCl.				
4.	5—	4435	CL	SANDY LEAN CLAY (45-47.5 feet)  Dry, very stiff, no odor.  Predominately silt and clay with ~40% fine to medium sand and ~5% fine gravel to 10 mm. The gravel is angular to subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl.				
METHOD NO SAMPLE TERINGTON GFJ BRN&CALD GDT 9/25/09	0-	4430	SC CL	CLAYEY SAND with GRAVEL (47.5-49 feet) Dry, very dense, no odor. Predominately medium to fine sand with ~15% coarse sand, ~20% fine gravel to 20 mm and ~20% silt and clay. The gravel is very angular to angular, the sand is angular to subangular. The fines have medium plasticity and toughness and do not react to HCl.  SANDY LEAN CLAY (49-55 feet) Dry, hard, no odor. Predominately silt and clay with ~35% fine to medium sand and ~5% fine gravel to 10 mm. The gravel is angular to subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and do not react to HCl. Thinly bedded.				

Project Name: Yerington Groundwater Investigation				Vell Nu	nber:	PA-MW2
Soil Boring	g [	Monitoring Well X Project Number:			1262	59.001 Sheet 4 of 9
Depth (feet) Elevation (feet)	USCS Group Symbol	Description	Water Level	Lithology ciquarg	Log M	Remarks
55 —	SC CL	Dry, very dense, no odor. Predominately medium to fine sand with ~15% coarse sand, ~20% fine gravel to 20 mm and ~20% silt and clay. The gravel is very angular to angular, the sand is angular to subangular. The fines have medium plasticity and toughness and no reaction to HCl.				·
60 4420	SC	SANDY LEAN CLAY (56-57 feet) Dry, hard, no odor, thinly bedded. Predominately silt and clay with ~35% fine to medium sand and -5% fine gravel to 10 mm. The gravel is angular to subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and do not react to HCl.				
65 441:	SC 5	CLAYEY SAND (62.5-69 feet)  Dry, dense, no odor.  Predominately medium to fine sand with ~5% fine gravel to 15 mm and ~40% silt and clay. The gravel is very angular to subangular, the sand is subangular. The fines have medium plasticity and toughness and have a weak reaction to HCl.				
70 - 441	CL SC	Moist to dry, hard, no odor.  Predominately silt and clay with ~30% fine to medium sand and ~5% fine gravel to 13 mm. The gravel is subangular, the sand is subangular to subrounded. The fines have medium plasticity and				

## **BORING LOG**

PA-MW2 Yerington Groundwater Investigation Well Number: Project Name: 5 of 9 126259.001 Sheet X Monitoring Well Project Number: Soil Boring Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Water Level Lithology Remarks Well Description 75 SANDY LEAN CLAY (75-78 feet) Dry, hard, no odor. Predominately silt and clay with ~40% fine to medium sand and trace fine gravel to 10 mm. The gravel is subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 4/3), and do not react to HCl. 4405 SANDY LEAN CLAY (78-84 feet) Dry to moist, hard, no odor. Predominately silt and clay with ~45% fine to medium sand and ~5% fine gravel to 10 mm. The gravel is angular to subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, are dark grayish brown (10YR 4/2), and do not react to HCl. 80 4400 CLAYEY SAND (84-85 feet) Dry, dense, no odor. Predominately medium to fine sand with ~5% fine gravel to 10 mm and ~35% silt and clay. The gravel and sand are subangular 85 to subrounded. The fines have medium plasticity and toughness and do not react to HCl.

SANDY LEAN CLAY (85-95 feet) Dry to moist, hard, no odor. Predominately silt and clay with ~45% fine to medium sand and ~5% fine gravel to 10 mm. The gravel is angular to subangular. 4395 SONIC METHOD NO SAMPLE YERINGTON.GPJ BRN&CALD.GDT 5/25/09 the sand is subangular to subrounded. The fines have medium plasticity and toughness, are dark grayish brown (10YR 4/2), and do not react to HCl. 4390

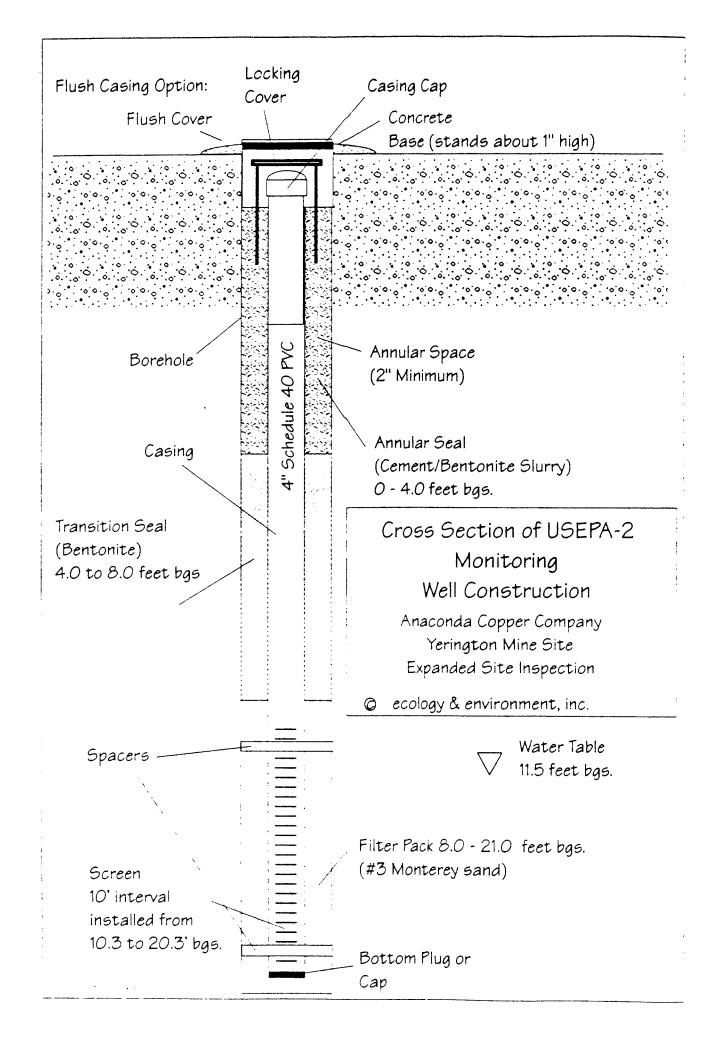
## **BORING LOG**

Well Number: PA-MW2 **Yerington Groundwater Investigation** Project Name: 6 of 9 126259.001 Sheet . X Project Number: Monitoring Well Soil Boring Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Water Level Lithology Remarks Well Description 95 WELL-GRADED SAND with SILT (95-97 feet) Dry, loose to medium dense, no odor. Predominately medium to fine sand with ~20% coarse sand,  $\sim$ 10% fine gravel to 10 mm and  $\sim$ 10% silt and clay. The gravel is subangular, the sand is subangular to subrounded. The fines are 4385 nonplastic and do not react to HCl. SANDY LEAN CLAY (97-99 feet) Dry to moist, stiff, no odor. Predominately silt and clay with ~45% fine to medium sand and ~5% fine gravel to 13 mm. The gravel and sand are subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 4/3), and do not react to HCl. SANDY LEAN CLAY (99-108.5 feet)
Dry, hard, no odor, laminated to thinly bedded.
Predominately silt and clay with ~50% fine to medium sand and CL trace coarse sand to 3 mm. The sand is subangular to 100 subrounded. The fines have medium plasticity and medium to low toughness, are yellowish brown (10YR 5/4), and do not react 4380 105 4375 METHOD NO SAMPLE YERINGTON.GPJ BRN&CALD.GDT SANDY LEAN CLAY (108.5-112 feet)
Moist, hard, no odor, massive (mo visible bedding).
Predominately silt and clay with ~50% fine to medium sand and trace fine gravel to 15 mm. The gravel is subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, mottled color, and do not react to HCl. 4370 SANDY LEAN CLAY (112-122.5 feet) Dry, hard, no odor. Predominately silt and clay with ~50% fine to medium sand and

Projec	ct Nam	e:	Yerington Groundwater Investigation	_ \	Well Nu	mber:	PA-MW2
Soil E	Boring		Monitoring Well Number:			12625	59.001 Sheet 7 of 9
Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Water Level	Lithology display	Log Mel]	Remarks
115—	4365	1	trace fine gravel to 15 mm. The gravel is subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, are dark grayish brown (2.5Y 4/2), and do not react to HCl.				
120-	4360		- -				
125 — 125 —	4355	SC	CLAYEY SAND (122.5-125 feet) Moist, very dense, no odor. Predominately medium to fine sand with ~5% fine gravel to 10 mm and ~40% silt and clay. The gravel is subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness and do not react to HCl.  NO RECOVERY				
130 — - 0.01	4350	SC	CLAYEY SAND with GRAVEL (130-137 feet)  Moist, very dense, no odor.  Predominately medium to fine sand with ~15% coarse sand, ~20% fine gravel to 15 mm and ~25% silt and clay. The gravel is angular to subangular, the sand is subangular to subrounded.  The fines have medium plasticity and toughness and have a strong reaction to HCl.				

Proje	et Nam	ie:	Yerington Groundwater Investigation	Well Numb		PA-WW2			
Soil Boring			Monitoring Well X Project Number:	12	2625	59.001 Sheet <u>8</u> of <u>9</u>			
Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Water Level Lithology	Mell	Remarks			
135 —	4345	SC	CLAYEY SAND (137-142 feet)						
140-	4340		Moist to 140 feet and saturated to 142 feet, very dense, no odor. Predominately medium to fine sand with ~5% fine gravel to 15 mm and ~35% silt and clay. The gravel is angular to subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness and have a strong reaction to HCl.			Measured 2/9/2005  Measured in borehole			
3085291 5755/05 145	4335	CL	SANDY LEAN CLAY (142-149 feet) Moist to saturated, hard, no odor. Predominately silt and clay with ~45% fine to medium sand and ~5% fine to coarse gravel to 25 mm. The gravel is subangular, the sand is subangular to subrounded. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and have a weak reaction to HCl.						
ONIC METHOD NO SAMPLE YERINGTON GPJ BRNACALD, GDT 5/23/05  100  100  100  100  100  100  100	4330	SP	POORLY-GRADED SAND (149-159 feet) Saturated, medium dense to dense, no odor. Predominately medium to fine sand with trace fine gravel to 10 mm and ~5% silt and clay. The gravel is subangular, the sand is subangular to subrounded. The fines are nonplastic and do not react to HCl.						

	ject Nar	ne:	refington Groundwater investigation	erington Groundwater Investigation Well Number					
Soil Boring		[	Monitoring Well	Project Number:	12625			59.001 Sheet 9 of 9	
Depth (feet)		USCS Group Symbol	Description		Water Level	Lithology Lithology	Log McII	Remarks	
155	4325								
IL INCO NO DAWITE TENNOTON, SEL BRIGGO, SELOTO SELOTO									



	Verbal		•
Depth (ft.) Graphic Log	Description .		
	Road base 1st. 0.5 ft.		Drilling Commenced on 10/20/00
	Lt. brown, graded sand w/ pea	<b>0</b> 11.7	
	gravel - unconsolidated, loose, dry; 1.5 ft. recovery.	SW	via hollow-stemmed auger method.
	•		Drilling was completed on 10/21/00.
2 —	No recovery to depth, except where noted Lithology logged		The total depth of the boring was
	from auger cuttings as course, well-graded sand w/		21 feet below ground surface (bgs.).
3 - 1	pea gravel; loose, moist		The initial boring was advanced
			with an 8-inch auger and was
4 -			overdrilled with 10-inch auger piror
5 - 1			to well installation. The well was
	course, well-graded sand w/ pea gravel; loose, moist.	SW	installed with a slotted screen
6	pea graves, 10050, 110150.		interval of 10 feet, from 20.3
			to 10.3 feet below ground surface.
7 = 3			~
			The stabilized water level was 11.6
8 = 123.5			feet below the ground surface
	•		level prior to sampling on 10/23/00.
9 —			The well location is 310640.6 Eastings
E RANGE			and 4321197.4 Northings at an
10	Course, well graded sand		approximate elevation of 4360 feet
	w/ pea gravel: saturated below 11.5 feet	SW	above sea level.
11 = :			
=	Groundwate	er at 11.5 feet	
12	on 10/21/00	. Stabilized	
	to 11.6 on 10	/2 <b>3</b> /00.	
13 = 13			
=			
14 = : : : : : : : : : : : : : : : : : :			
15	Overar lea to 21 ft. deptr and netalled well with		
	10 to 20 root screen		
16 —	interva - Cuttings from auder ind cated bame		
	inthology to destr		
17 —			
18			
19 —			
20 — 3			

Boring USEPA-2

CANARY-CLIENT'S COPY PINK-WELL DRILLER'S COPY

PRINT OR TYPE ONLY

DO NOT WRITE ON BACK

## STATE OF NEVADA DIVISION OF WATER RESOURCES

## WELL DRILLER'S REPORT

Please complete this form in its entirety in

Log No,	// n	use onl	Υ	
Permit No.	18			
JOTICE OF	INTEN	NO		

0 / +	,	accor	rdance wi	th NRS 53	4.170 and NA	C 534.340	NOTICE OF	NTENE NO	
1. OWNER BOD DUVE			***************************************		ADDRESS	AT WELL L	OCATION 9/	Luzjei	- lane
MAILING ADDRESS 9/ X	uz je j	- Zan	ح		***************************************		yerinsto	1 West	8947
yer ing	704 A	yeu,	84447	1					*************
2. LOCATION NW 1/4 N			T	13		<i>5</i>	Lyon	***************************************	County
PERMIT NO	sources		9-4// Parcel No.	ا مخته-۱	A	27. 4	Subdivision Name	**********************	·····
3. WORK PERFOR			4.		PROPOSER	TIOE			
New Well Replace	□ Recond	dition		Domestic	PROPOSED		5.	WELL TY	
	Other				/Industrial	Irrigation Monitor	☐ Stock ☐ A	Cable 🖈 Rota Air 🔲 Othe	ry ⊔ RVC r
6. LITHO	LOGIC L	OG			8.		ELL CONSTRUCT	rion	_
Material	Water Strata	From	То	Thick- ness	Depth Dril	led 239	Feet Dept	h Cased 24	Feet
760 Soll	- Citata	0	2	2	-	HOLE	DIAMETER (BI	•	
Hard Pan		2	3	12	1	105/5 Inch	From nes <u>O</u> Fee	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7
Kard Pan - Rock		3	3	2	1	5 2/C	ies /44 Fee		reet Feet
Coanse Sand-Gravel		3	10	5	1	Incl	. , ,	•	reet Feet
Coarse Sand-Clay		10	15	3	]		ASING SCHEDU		·cet
Goarse Sand - Gravel	'	15	57	42	Size O.D.	Weight/Ft.	Wall Thickness		I
Goarse Sand- Clay	<u> </u>	22	26	19	(Inches)	(Pounds)	(Inches)	From (Feet)	To (Feet)
Coarse Sand- Clay-	<del> </del>			ļ	678	12.72	./8	+1.5	239
Kock '		26	96	20				<u> </u>	
Clay-Coarse Sand-	·	01	1						<u> </u>
Rock Coarse Sand -	<del>-</del>	96	146	02	Perforation	is:	Sawed		
Gravel-Rock	×	146	185	39	Type p	erforation	Sawed 132 x 3 4 x 9feet to	6 Row	J
Wol Rock - Solid -		176	783	10/	From	JH 21	9 feet to	239	feet
To Few Fractured		185	220	35	From		feet to	****************	feet
Fractured Vol		7.5				***************************************		***************************************	
Rock	X	220	239	19	From				
					Surface Se				<del></del>
					Depth of Se			Seal Ty □ N	pe: eat Cement
25						Method:		□ c	ement Grout
	ļ		<u> </u>				Poured	<i>,</i> <b>£</b> €	oncrete Grout
R S S	ļ		ļ	<u> </u>	Gravel Pac	ked: 🗆 Ye	es 🗆 No		
	<del>                                     </del>	ļ	<del> </del>	<b></b>	From	50	feet to	39	feet
<u> </u>	1		<del> </del>	<del> </del>	<u> </u>				
<b>8</b>	<del> </del>	ļ	<del>                                     </del>	<del>                                     </del>	9. Static water	r level	WATER LEVEL		v land surface
	<del>                                     </del>	<del> </del>	-	<u> </u>	Artesian flo			G.P.M.	P.S.I.
TA 78	<u> </u>		<del>                                     </del>		11	erature Co/e		6009	
8		<u> </u>		<del> </del>	10.		LER'S CERTIFIC		
Date started May	21	<del></del>	.1		<b>1</b> 1		ler my supervision		in tour to the
~ /			***************************************	, 1983	best of my	knowledge.	ici my supervision	and the report	is true to the
Date completed JWn		<b>6</b>		, 1983	Name	Ogde!	Bras	Drill	115
7. WELL	TEST DA	TA				162	Contractor	b	
TEST METHOD: 🔎 B	ailer 🗌	Pump	☐ Air L	ift	Address	/02	N. By	ree Ko,	7 C
	Draw Down t Below Stati	c)	Time (Ho	urs)	***************************************	yerin	ston Ne	U 889	142
Bayler 25	<i>/</i> o	1/2	2 Hrs	7		the State Co	nse number ntractor's Board	1568	6
			·		H		ntractor's Board number issued by t	ha	
				·	Division	of Water Res	ources, the on-site	driller 6.3	<u>Y</u>
					Signed	200	der		
					J. Signed	By driller p	erforming actual drilli	ng on site or con	iractor
					Date	10-2	5-93		<del>}}</del>

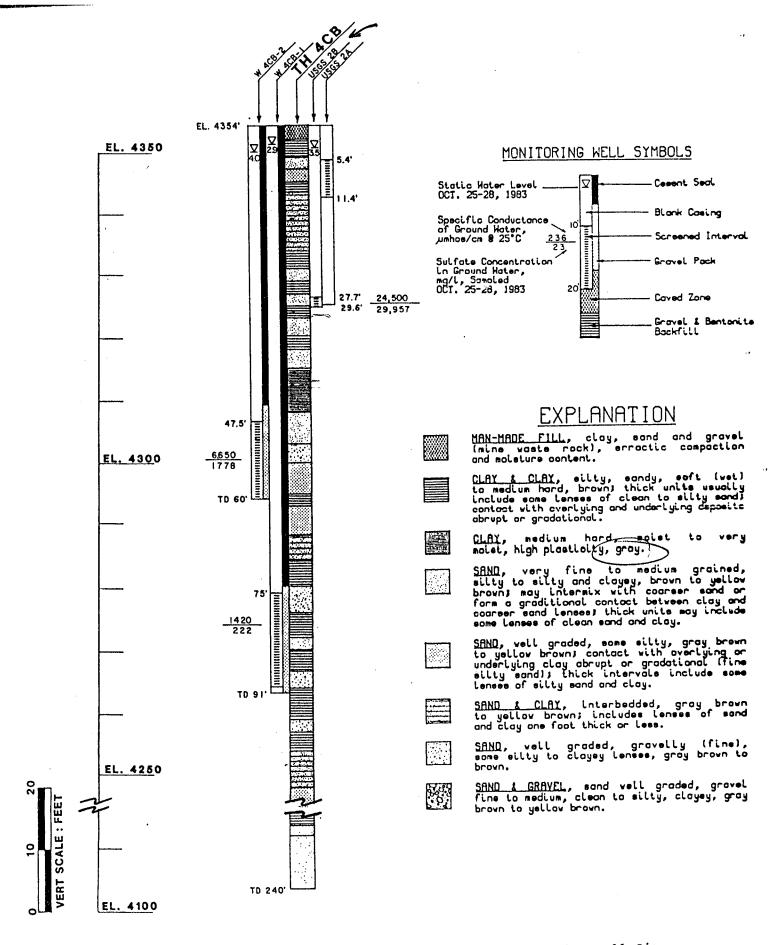
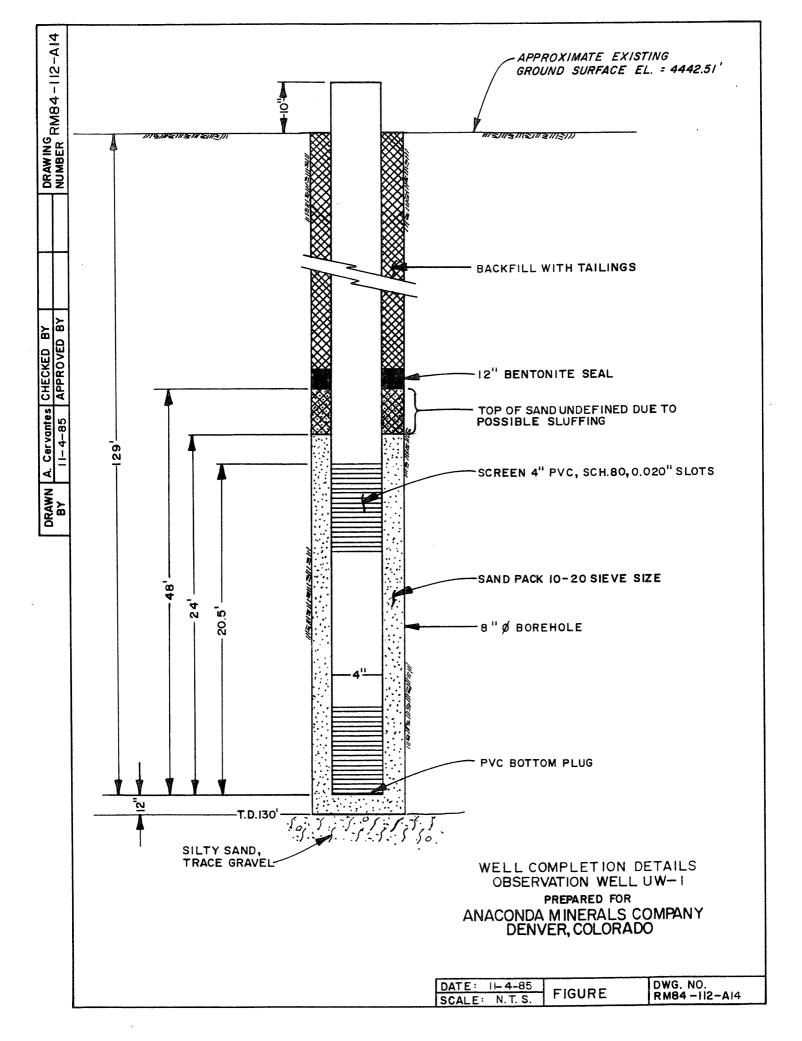


Figure 3 Well Completion Details and Lithologic Log for W4CB Well Site



### WHITE—DIVISION OF WATER RESOURCES CANARY—CLIENT'S COPY PINK—WELL DRILLER'S COPY

PRINT OR TYPE ONLY

## STATE OF NEVADA DIVISION OF WATER RESOURCES

5-AA-2 office use only	
Log No. 25333	
Permit No.	
BasinMASON V. 9-1	00

## WELL DRILLERS REPORT

Please complete this form in its entirety

	-	-	_	
:	f	i	1	ed

). Ow	/NER	Anacono	la Minera	ls		1	NOTICE OF INTENT NO.101183 ADDRESS AT WELL LOCATION
							Yearington, Nevada
2. LO	CATION	NE	NE 14	SecX	5T	13.	
PERMI	T NO			<b> </b>		***************************************	Subdivision Name
				<u> </u>			Subdivision Name
	* 14		WORK M	ONITOR	4.		PROPOSED USE 5. TYPE WELL
	New Well		Recondition		1	nestic [	
	Deepen		Other	<u>X</u>	Mun	icipal [	Industrial Stock Other C
6.		LIT	HOLOGIC LO	)G			8. WELL CONSTRUCTION  Diameter hole 10 inches Total depth 39 feet
	Mate		Water Strata	From	То	Thick- ness	Casing record 10 ft. of 10"
	& clay			0	3	3	Weight per footThickness
		У		3	7	4	Diameter From To
		graded			15	8	10inches0feet10feet
	- silt			15	17	2	inchesfeetfeet
		graded		17	20	3_	inchesfeetfeet
				20	22	2	inchesfeetfeet
		<u>y</u>		22	24	2	inchesfeetfeet
	- fine			24	28	4	inches feet feet
		graded	<b>-</b>	28	30	2	Surface seal: Yes \( \text{N} \) No \( \text{Type} \) Cement \( \text{Cement} \) Depth of seal \( \text{18} \) feet
	- silt			30	32	2	Gravel packed: Yes 🖾 No 🗆
		graded		32	35	3	Gravel packed from 18 feet to 39 feet
				35 38	38	1	Graver packed from
Clay	<u> - 11601</u>	um hard			734		Perforations:
		*****			<u> </u>	<b>†</b>	Type perforation screened
***************************************						<b>†</b>	Size perforation
		<del>/</del>			<del>                                     </del>	<u> </u>	From Blank 0 feet to 18 feet
		<u> </u>					From screened 18 feet to 39 feet
	1.5	1.134.					Fromfeet tofeet
							Fromfeet tofeet
	1.0	an Aufertylana	ter tig				Fromfeet tofeet
							9. WATER LEVEL
							Static water level2_7feet below land surface
						<b></b>	Flow
					ļ	<u> </u>	Water temperatureº F. Quality
					l .	<u> </u>	10. DRILLERS CERTIFICATION
	_	10.26					This well was drilled under my supervision and the report is true to
Date sta		10-26	*******************		********		the best of my knowledge.
Date co	mpleted	10-27				, 1983	Name Lang Exploratory Drilling (Alan Lang Wel
				T.4			Contractor Pump Inc.)
7.		wel	LL TEST DA	1 A			Address 185 W. 3300 So. SLC, Utah 84115
Pur	mp RPM	G.P.N	A. Draw	Down	After Hou	rs Pump	Contractor
***************************************						· · · · · · · · · · · · · · · · · · ·	Nevada contractor's license number 016675
							Nevada contractor's drillers number 020710
							Nevada driller's license number1366
		R	AILER TEST				Actual Driller
C D M					Faat	<b>L</b>	Signed ALAN LANG Conjugator
			Draw dowi				
G P M		***************************************	Draw dowi			nours	Date

Applied
Hydrology
Associates, Inc.

PROJECT: YERINGTON WELL TYPE:
DRILLING CO: ANDRESEN EXPLORATION WELLHEAD TO DRILLER: RANDY BARR WELL COMPLETED: M. FLICKINGER-A.E.R.L. WELL DEVELORED DATE SURVER AHA JOB#: 55-05 SCREEN SLO

DRILLING METHOD: AUGER

W5AA-3

COMPLETION DIAGRAM

WELL TYPE: MONITORING WELL
WELLHEAD TYPE: STICK-UP
WELL COMPLETED: 10/24/98
WELL DEVELOPED: 10/26/98
DATE SURVEYED: 12/4/98
SCREEN SLOT SIZE: 0.02"
SCREEN TYPE: SCH 40 PVC

CASING DIAMETER: 2"

CASING MATERIAL: SCH 40 PVC

BORING DIAMETER: 7.25"

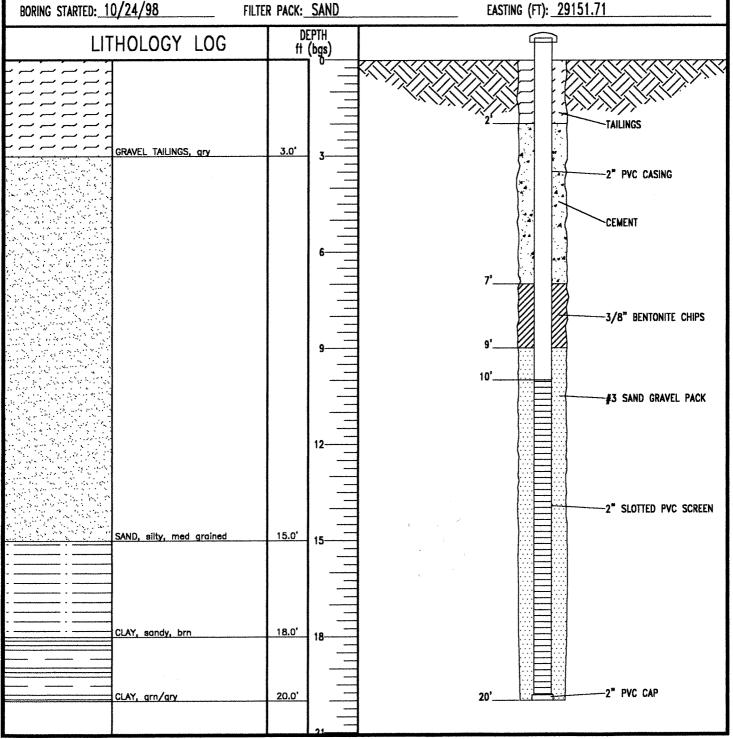
TOP OF CASING ELEV. (FT): 4355.66

GROUND ELEVATION (FT): 4351.42

LOCATION: NORTH OF BERM

NORTHING (FT): 44950.86

EASTING (FT): 29151.71



## _ WHITE-DIVISION OF WATER RESOURCES CANARY-CLIENT'S COPY PINK-WELL DRILLER'S COPY

### STATE OF NEVADA **DIVISION OF WATER RESOURCES**

## W-5AB-2

	FFICE USE	
Log No	2532	4
Permit No.	DW	. 141

## WELL DRILLERS REPORT

PRINT OR TYPE ONLY

1

Please complete this form in its entirety

Permit No. Du				I
Basin MASON	V.	9-	X	رج
		fi	Led	

The contract of the second		1 <i>a</i>						NTENT NO.10-11-83			
						ADDRESS AT WELL LO Yearing					
	er Colorado						LOMEINC.YELLICA	***********			
2 LOCATION	NW 4 NE	V Sec	5	т	13	N/X R. 25 E	Lyon	County			
PERMIT NO	and the Committee of th	no \$155	ar No.								
	issued by Water Resou	rces		Parcel No.			Subdivision Name				
3. T	TYPE OF WORK	MONITO	R	4.		PROPOSED USE		5. TYPE WELL			
New Well  Recondition Domesti					nestic 🗆	Irrigation 🗌	Test 🔀	Cable 🗌 Rotary 🔀			
Deepen  Other  Municipal						Industrial 🗆	Stock 🗆	Other 🗆			
6.	LITHOLO	GIC LOG				8. WELL CONSTRUCTION Diameter hole 10 inches Total depth 30 feet Casing record 13 ft. of 10"					
Mater		Water Strata F	rom	То	Thick- ness	Casing record 13	ft. of 10"	othfeet			
Clay			0	3	3	Weight per foot		Thickness 1/4"			
Sand well q	raded		3	7	4	Diameter	From	To			
Clay	transa sa s		7	12	5	10 inches	fee	t 13 feèt			
Sand Well G		]	2	16	4	inches	fee	etfeet			
Sand fine to	o medium	]	.6	19	3	inches		3 3			
Clay			_1		4	inches		1 1			
Sand fine	•		3	28	5	inches		1			
Clay		2	.8	30	2	inches		•			
					<b>_</b>	Surface seal: Yes 🛛					
						Depth of seal		feet			
					<u> </u>	Gravel packed: Yes 🔀					
3					ļ	Gravel packed from caved zone 28'	12feet 1	tofeet			
Y CONTRACTOR OF THE PROPERTY O					ļ	-1	to 30.				
/					<u> </u>	Perforations:					
					ļ	Type perforation screened Size perforation					
					<b> </b>						
					<b></b>	From Blank 0	feet to	. <u>1.4</u> feet			
					<b>ļ</b>	From screened 1					
					<del> </del>	From					
						From					
					<u> </u>	rrom	reet to	1661			
						1	WATER LEVEL				
						Static water level	3.5	feet below land surface			
						Flow	G.P.M	P.S.I.			
						Water temperature	° F. Quality				
						= 10. DRILI	ERS CERTIFICA	TION			
Data street	10-	-22			_, 19.83			and the report is true to			
Date started  Date completed	10	-24	*********	*************	, 19.03 19.83	the best of my knowled	ge.	•			
		***************************************			, . /	Name Lang Explor		ing (Alan Lang Wel			
7.	WELL TE	ST DATA				305 ** 35	Contractor	Pump Inc.)			
	<b>,</b>					Address 185 W. 33	Contractor	Utah 84115			
Pump RPM	G.P.M.	Draw Dow	'n	After Hou	rs Pump	4	_				
		<b>_</b>				Nevada contractor's lice	nse number	016675			
			$\perp$	***************************************		Nevada contractor's dril	lers number 0207	710			
							12/				
	L					Nevada driller's license r	136	Actual Driller			
	BAILEI	R TEST				1 Alm	Lan				
G.P.M		aw down	f	eet	hours	Signed ALAN LANG	Contractor	***************************************			
G.P.M.		aw down					4-30-8	34			
G.P.M		aw down				Date		<del>7.1</del>			
						n					

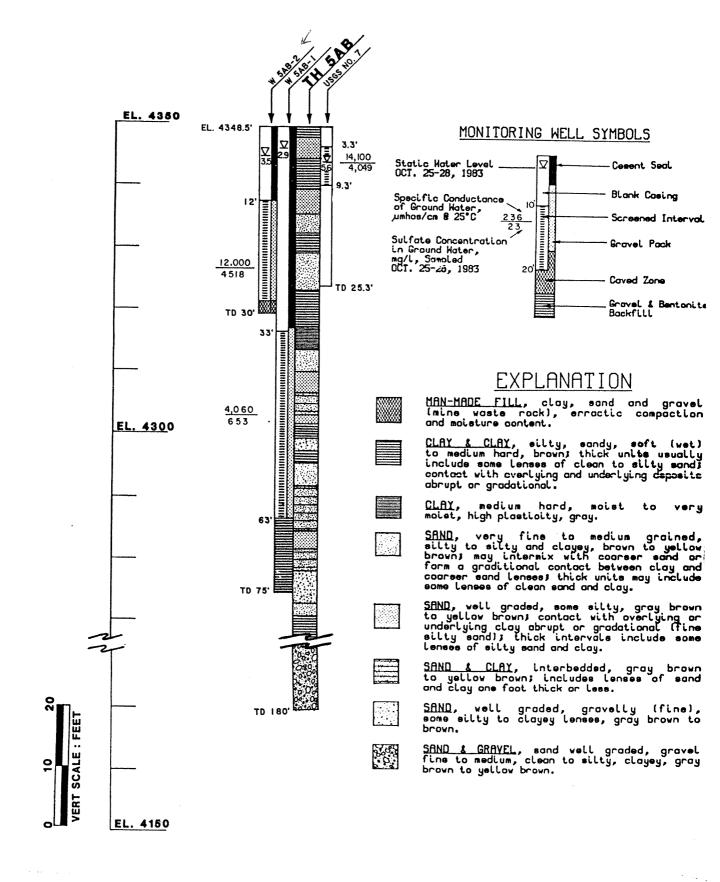


Figure 10 Well Completion Details and Lithologic Log for W5AB Well Site

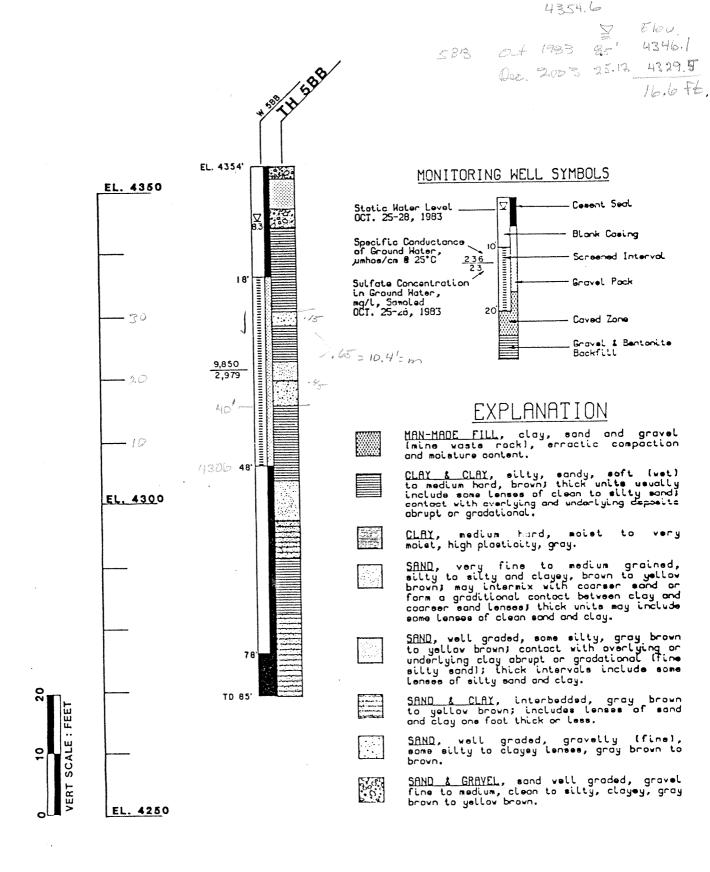
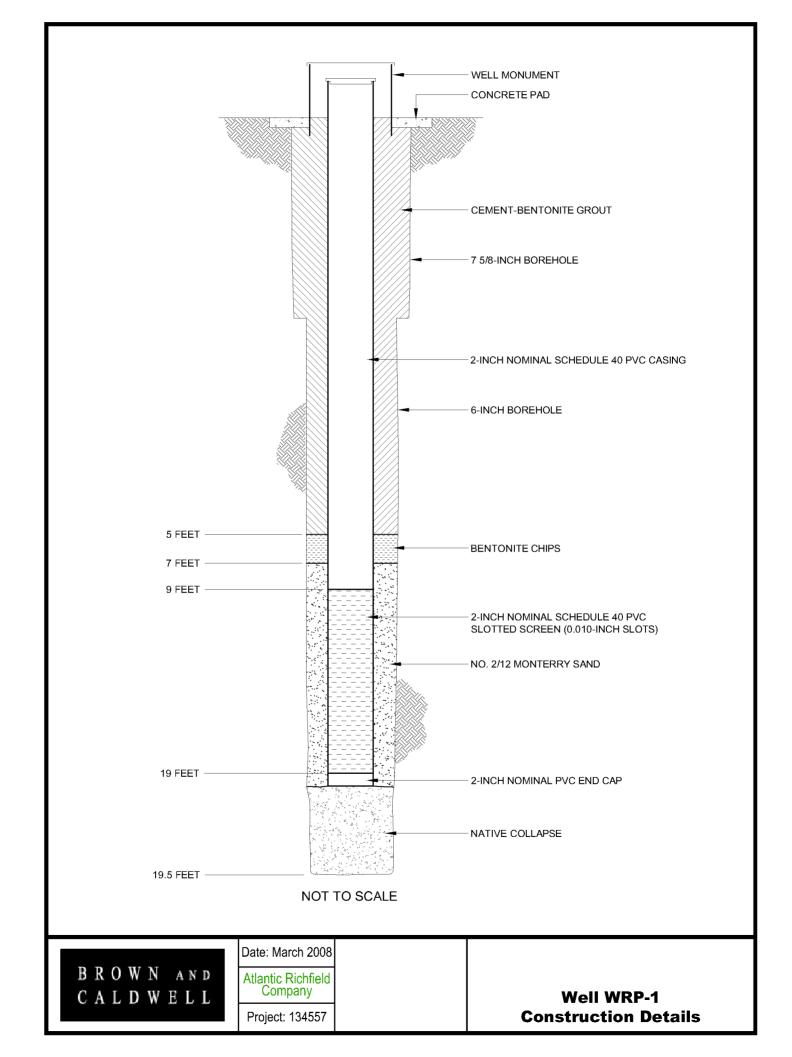


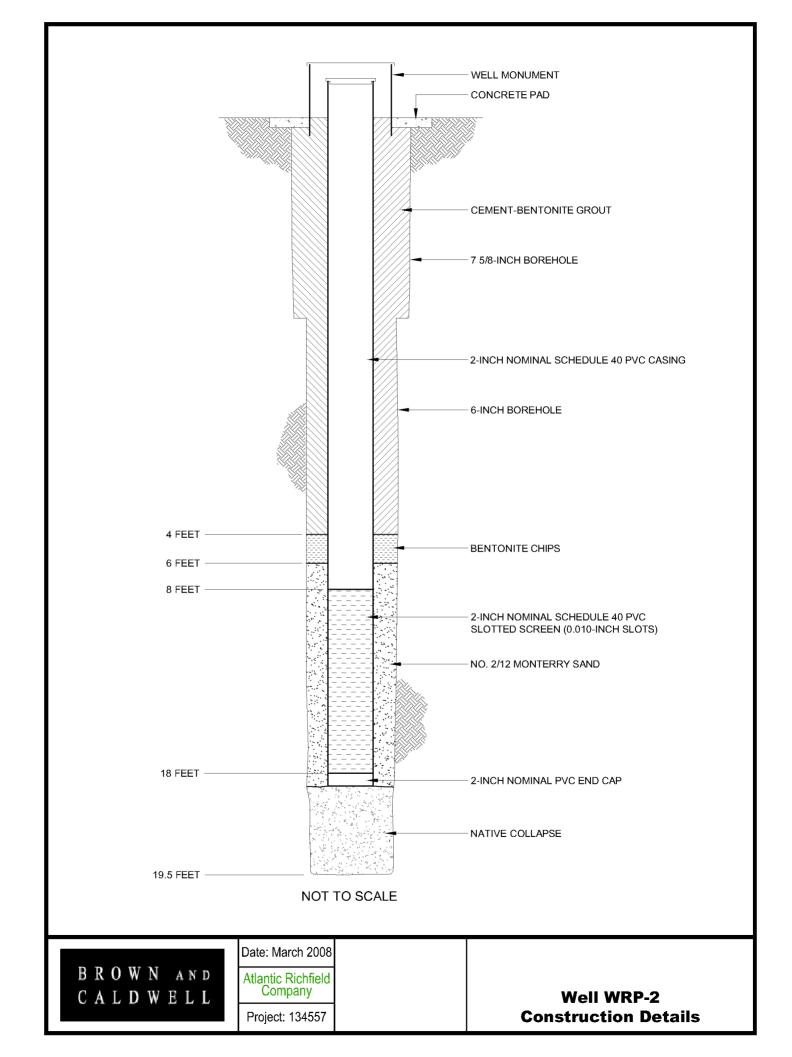
Figure 16 Well Completion Details and Lithologic Log for W5BB Well Site

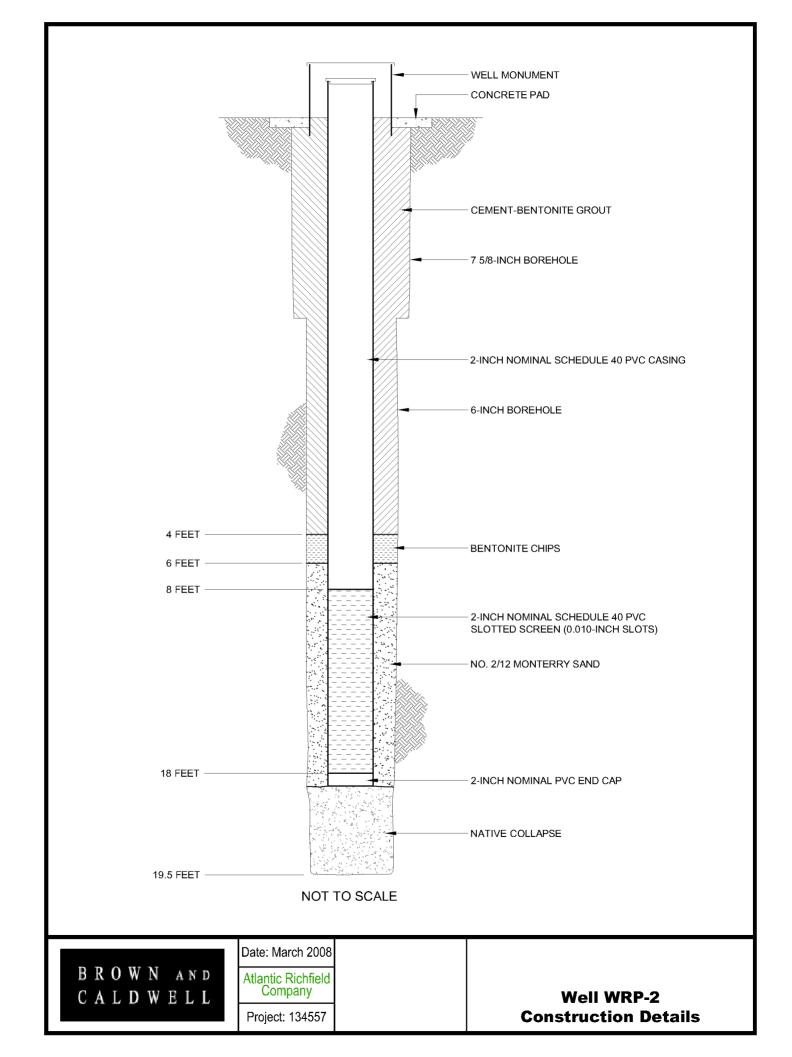


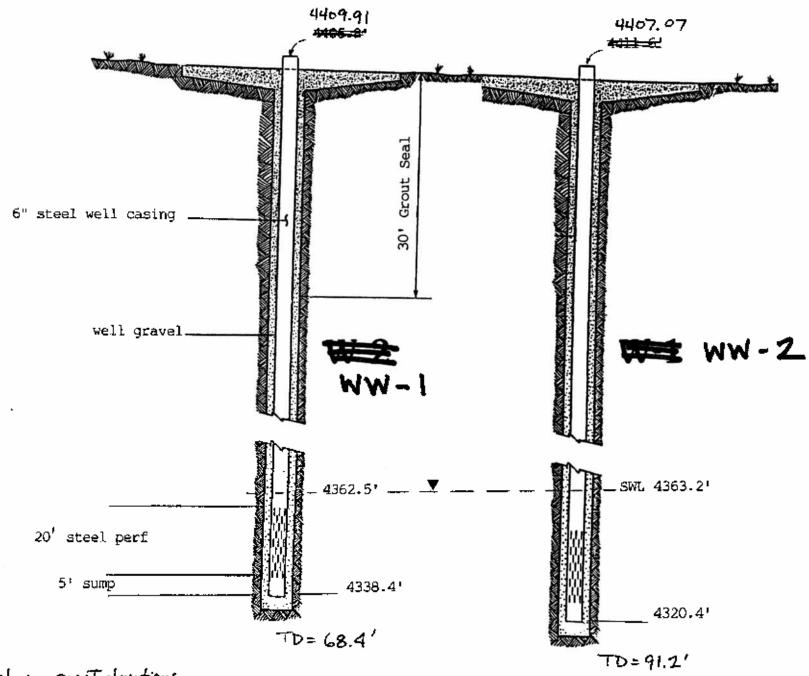
## Brown and Caldwell BORING LOG

Proje	ect Na	me: _Yer	ington Second Step Hydrogeologi	ic Framework Assessment		_		I	Pro	oject Number:132025		
Soil I	Boring:	: M	Ionitoring Well: Piezomet	er:X Boring/Well	Nu	mbe	r:	/RP-	1	Sheet <u>1</u> of <u>2</u>		
Bori	ng Loc	cation: Eas	t side of Walker River ~1/4 mi south	of Bridge Street			thing:					
Drilli	ing Co	ntractor:	Cascade Drilling	Driller:		Top of PVC Elevation: 4393.8 feet amsl Ground Surface Elevation: 4391.8 feet amsl						
Drilli	ing Eq	uipment:		Borehole Diameter:8-inches		Date	e Start	ted: 6	6/1	9/07 <b>Date Finished:</b> 6/19/07		
Drilli	ing Mo	ethod: Hol	llow Stem Auger	Drilling Fluid: Water		Con Dep	npleted th:	d 19	9.5	fbgs Water Depth: fbmp		
Samp	oling N	Method:	Split Spoon							WELL CONSTRUCTION		
Well	Seal:	Bentonite	and Cement			Typ of V	e and Vell Ca	Dian asing	net g:	er 2-inch Schedule 40 PVC		
Logg	ed By	: B. Bass				Slot	Size:	0.02	20 i	nch Filter Material: 2/12 Monterrey Sand		
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material De	escription	Sample Name	Sample Location	Lithology	Well	COLISITUCIIOII	Remarks		
_	4390 —		Backfill (0 - 2) Dry							Description of drilled cuttings based on ASTM Method D-2488 (the visual-manual procedure), grain-size determinations and nomenclature based on the Unified Soil Classification System.		
5-	-	SP	Poorly Graded Sand with S Moist, with medium density sand with a grayish brown o	. no odor. Primarily fine						Horizontal Survey data is expressed in the Nevada State Plane system, Nevada West zone, in feet.  Sharp contacts indicated by solid lines, gradational contacts indicated by dashed line.  All depths are below land surface unless stated otherwise.		
10-	4385 —	CL	Lean Clay (5.5 - 12) Moist, firm, no odor. Prima gravel or sand. The fines hat toughness, with a dark brown	ve low plasticity and						WELL DESIGN for WRP-1: PVC Stickup: 2.00 feet. Cement - Bentonite Grout: 0 - 5 feet Bentonite Chips: 5 - 7 feet No. 60 Silica Sand: NA feet 2/12 Monterrey Sand Filter Pack: 7 - 19 feet 2-inch Nominal Schedule 80 PVC 0.020 Slotted Screen: 9 - 19 feet Native Collapse: 19 - 19.5 feet Additional Bentonite Fill: NA feet  Number of wells at this location: 1 Screen intervals for paired wells are labeled at the installed depths.		
-	4380	SW	Well-Graded Sand (12 - 15 Wet, loose, no odor. Primari with ~20% coarse grain sand grains are muli-colored.	ly medium to fine sand								

Project	t Na	me: Yeri	ngton Second Step Hydrogeologic Framework Assessment		_		Pr	oject Number: 132025
Soil Bo	ring	: M	onitoring Well: Piezometer: X Boring/Wel	l Nur	nbe	r:W	RP-1	Sheet <u>2</u> of <u>2</u>
Depth (ft)	(ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
43	- - -	SW	Well-Graded Sand with Clay (15 - 19.5) Wet, loose, no odor. Primarily silt and clay with ~20% medium grain sand and ~30% fine grain sand. The sand grains are muli-colored.					
43	- - - -		Bottom of Borehole at 19.5 feet below ground surface.			••••	K.A. K.X	
43	- 365 - -							
43	- 860 —							







1) Monitoring point elevations resurveyed in 2008

NOTES:

FIGURE 9. Slot Monitor We

Slot Monitor Well Schematics (not to scale)

z) Well IDs were changed + indvertently swapped > 5 years ago. Actual depth confirmed with weighted tape measure.

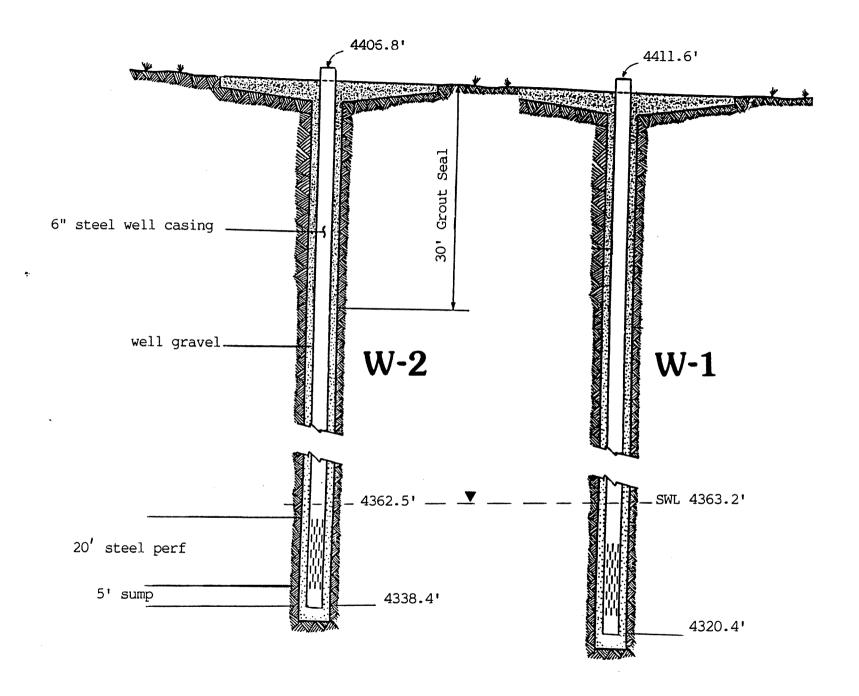


FIGURE 9. Slot Monitor Well Schematics (not to scale)

# WELL LOG AND REPORT TO THE ENGINEER OF NEVADA

Log No. /9/5-
Rec. May 26 1958
Well No
Well No. 19109 Permit No. 14118

	1	., WW		Do not fill in							
Owner	inaconta (	Copper Mi	ning Company Driller Mel 1	(ever							
Address	32\ 3	<b>Terington</b>	"evada Address/20	Address / 20 Manua Jane Roftle No 3							
Location of	of well: Nat	1.14.NE.14	Sec.21, T.13.N/S, R.25.E, inLycon	County							
or33	37 Ft. S.	. 89° - 5	5'E. of the West Commorn Corner of	Sec. 16 and 21							
Water will	l be used for	A	INING ( DRAINING MINE TOTAL d	epth of well 3/4/							
Size of dr	rilled hole	14"		Weight of casing per linear foot 37.7 —							
Thickness	of casing	44	— 3/16 Temp. of water	Temp. of water 57							
Diameter a	and length of	casing/	110 X /80' - /2" x 28	6'							
76 0	<i>a</i>										
	-		g.p.m. and pressure								
			(Type and size								
			Z-16 - 52 Date of completion								
Type of w	ell rig		ABLE TOOLS								
		LOG	OF FORMATIONS	Water-bearing Formation, Casing							
From feet	To feet	Thickness feet	Type of material	Water-bearing Formation, Casing Perforations, Etc.							
0	55	55'	OUOR BURGON.	Chief aquifer (water-bearing formation)							
55	65	16	FIVIRSMO & GEOVEL	formation) from 25 - to 3/4 'to							
65	95	10	BOTA BOBDIN	Other aquifers							
75	85	10	BAD CAVI MERVING SAND	October adultiers							
85	95	10	JAND GRAVIL								
95	107	12	SAND GRAVIL								
107	113	6	Decomposed Rock								
//3	128	15	ROCK	First water at 90 feet							
28 36	136	8	ROCK								
44		*	HARD ROCK	from //0 to 284 st.							
74 S	155	159'	BROKEN ROCK	10							
•	V.7	'		Size of perforations							
				M x 4"							

		LOG OF FORMATIONS—Continued WELL #	
From To feet feet	Thickness	Type of material	•
Diam. Fro	m To	CASING RECORD	
(4" 0	t feet	I Length "Remarks"—Seals, Grouting, Etc.  180 14"10 CASING WITH DRIVE SHOP  286 12"10 - NO DRIVE SHOP.	
TosT	PUMPEd	NERAL INFORMATION—Pumping Test, Quality of Water, Etc.  1146 P. H. W. TH 9.7. DD.	•
Fung	CAN.	Tump. 1000 GPM. BUT BIST MT 750, GPM	
	DRILLERS ST	ATEMENT (Not to be filled in by Driller)  ny jurisdiction and the	
		t information and belief.	
Signed.	Media	August 1	
Ву		(1/1/5 16 No. 3	
Dated 5-1	7-56,1	MAY 29'52 RECEIVED	•
		SHAPET TO A 12 King of SHAPET	

## Brown and Caldwell BORING LOG

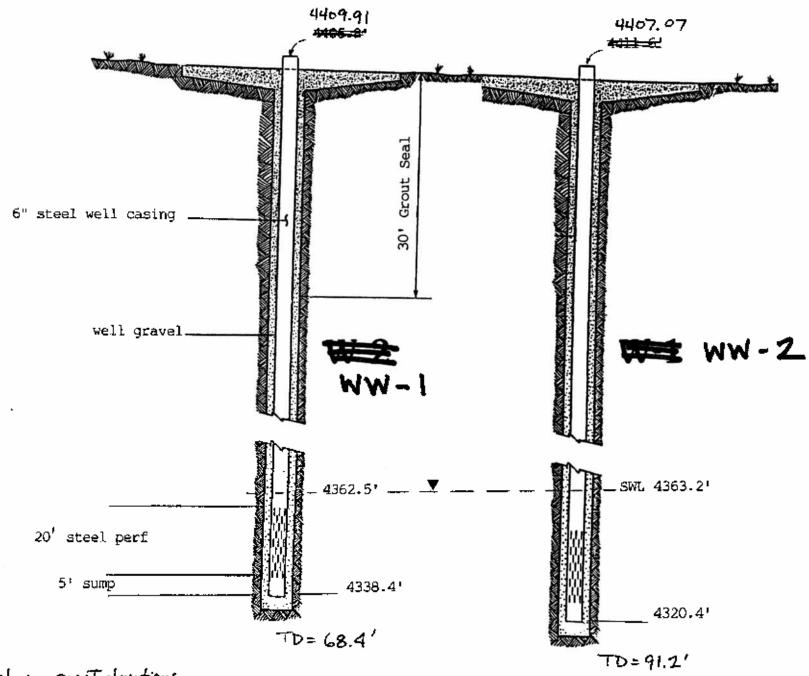
Proj	ect Na	me: _Yer	rington Second Step Hydrogeologi	logic Framework Assessment Project Number: 132025					_				
Soil l	Boring	: M	fonitoring Well: Piezomet	er:X Boring/We	II N	umbe	er:	VRP-2				Sheet 1	of 2
Bori	ng Loc	ation: Eas	st side of Walker River near bridge or	n Bridge Street		Northing: 1541520.1							
Drill	ing Co	ntractor:	Cascade Drilling	Driller:	_	Gro	ound S	urfac	e Ele	evation: 43	390.6 feet a	amsl	
Drill	ing Eq	uipment:		Borehole Diameter:8-inche	s		e Star		/19/0	·/ 		ished: 6/19/0	
Drill	ing Mo	e <b>thod:</b> Hol	llow Stem Auger	Drilling Fluid: Water	_	Completed Water Depth: 19.5 fbgs Depth: fbmp							
Sam	pling N	Method:	Split Spoon		_	T	e and	Diam		WELL CON	STRUCTIC	)N	
Well	Seal:	Bentonite	and Cement		_	of V	Vell C	asing:	eter		nedule 40 P	°VC	
Logg	ged By	B. Bass			_	Slo	t Size:	0.020	) incl	a Filter M	aterial: 2/1	12 Monterrey	Sand
					$\blacksquare$				*****				
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material De	escription	Sample Name	Sample Location	Lithology	Well			Remarks		
-	4390 —	GW	Well-Graded Gravel with S Dry, medium dense, no odo ~10% coarse grain sand, ~15 ~15% fine grain sand and ~ color is medium brown.	or. Primarily gravel to 5% medium grain sand,					M gr ba Si Hi	lethod D-24train-size det ased on the ystem. orizontal Sulevada State	88 (the visu erminations Unified Soil rvey data is	ings based or lal-manual pros s and nomeno I Classificatio s expressed in em, Nevada \	ocedure), clature n
5-	4385 —	ML	Clayey Silt (3 - 6)  Moist, very dense, no odor. a geyish-brown color.	Primarily silt and clay with					SI gr Al ot	radational co Il depths are therwise.	ontacts indic	by solid lines cated by dash d surface unle	ned line.
-	-	CL-ML	Silty Clay (6 - 9) Moist, firm, no odor. Primal gravel or sand. The fines have plasticity, is very tough, and h	ve moderate to high					P'CHECK		2.45 feet. ntonite Grouips: 4 - 6 fee Sand: NA fey Sand Filt al Schedulen: 8 - 18 fese: 18 - 19	ut: 0 - 4 feet et feet ter Pack: 6 - e 80 PVC 0.00 eet 0.5 feet	
10-	_	CL-ML	Silty Clay (9 - 10.5) Wet, firm, no odor. Primarily gravel or sand. The fines hav plasticity, is very tough, and h	ve moderate to high					. So	lumber of we creen interva ne installed d	als for paire	ocation: 1 ed wells are la	beled at
-		SW	Well-Graded Sand with Sil Saturated, loose, no odor. I ~20% medium grain sand an The sand grains are white, bl	Primarily silt and clay with and ~30% fine grain sand.									

Proj	ect Na	me: _Yer	ington Second Step Hydrogeologic Framework Assessment		_		Pr	oject Number: 132025
Soil 1	Boring	g: M	onitoring Well: Piezometer: X Boring/Well	l Nur	nbe	r:W	RP-2	Sheet <u>2</u> of <u>2</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
-	4375 —	SW	Well-Graded Sand (15 - 19.5) Wet, loose, no odor. Primarily fine sand with ~40% medium grain sand. The sand grains are white, black and brown.					
	-		Bottom of Borehole at 19.5 feet below ground surface.					
	4370 —							
	4360 —							

## Brown and Caldwell BORING LOG

Proj	ect Na	me: _Yer	rington Second Step Hydrogeologi	logic Framework Assessment Project Number: 132025					_				
Soil l	Boring	: M	fonitoring Well: Piezomet	er:X Boring/We	II N	umbe	er:	VRP-2				Sheet 1	of 2
Bori	ng Loc	ation: Eas	st side of Walker River near bridge or	n Bridge Street		Northing: 1541520.1							
Drill	ing Co	ntractor:	Cascade Drilling	Driller:	_	Gro	ound S	urfac	e Ele	evation: 43	390.6 feet a	amsl	
Drill	ing Eq	uipment:		Borehole Diameter:8-inche	s		e Star		/19/0	·/ 		ished: 6/19/0	
Drill	ing Mo	e <b>thod:</b> Hol	llow Stem Auger	Drilling Fluid: Water	_	Completed Water Depth: 19.5 fbgs Depth: fbmp							
Sam	pling N	Method:	Split Spoon		_	T	e and	Diam		WELL CON	STRUCTIC	)N	
Well	Seal:	Bentonite	and Cement		_	of V	Vell C	asing:	eter		nedule 40 P	°VC	
Logg	ged By	B. Bass			_	Slo	t Size:	0.020	) incl	a Filter M	aterial: 2/1	12 Monterrey	Sand
					$\blacksquare$				*****				
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material De	escription	Sample Name	Sample Location	Lithology	Well			Remarks		
-	4390 —	GW	Well-Graded Gravel with S Dry, medium dense, no odo ~10% coarse grain sand, ~15 ~15% fine grain sand and ~ color is medium brown.	or. Primarily gravel to 5% medium grain sand,					M gr ba Si Hi	lethod D-24train-size det ased on the ystem. orizontal Sulevada State	88 (the visu erminations Unified Soil rvey data is	ings based or lal-manual pros s and nomeno I Classificatio s expressed in em, Nevada \	ocedure), clature n
5-	4385 —	ML	Clayey Silt (3 - 6)  Moist, very dense, no odor. a geyish-brown color.	Primarily silt and clay with					SI gr Al ot	radational co Il depths are therwise.	ontacts indic	by solid lines cated by dash d surface unle	ned line.
-	-	CL-ML	Silty Clay (6 - 9) Moist, firm, no odor. Primal gravel or sand. The fines have plasticity, is very tough, and h	ve moderate to high					P'CHECK		2.45 feet. ntonite Grouips: 4 - 6 fee Sand: NA fey Sand Filt al Schedulen: 8 - 18 fese: 18 - 19	ut: 0 - 4 feet et feet ter Pack: 6 - e 80 PVC 0.00 eet 0.5 feet	
10-	_	CL-ML	Silty Clay (9 - 10.5) Wet, firm, no odor. Primarily gravel or sand. The fines hav plasticity, is very tough, and h	ve moderate to high					. So	lumber of we creen interva ne installed d	als for paire	ocation: 1 ed wells are la	beled at
-		SW	Well-Graded Sand with Sil Saturated, loose, no odor. I ~20% medium grain sand an The sand grains are white, bl	Primarily silt and clay with and ~30% fine grain sand.									

Proj	ect Na	me: _Yer	ington Second Step Hydrogeologic Framework Assessment		_		Pr	oject Number: 132025
Soil 1	Boring	g: M	onitoring Well: Piezometer: X Boring/Well	l Nur	nbe	r:W	RP-2	Sheet <u>2</u> of <u>2</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
-	4375 —	SW	Well-Graded Sand (15 - 19.5) Wet, loose, no odor. Primarily fine sand with ~40% medium grain sand. The sand grains are white, black and brown.					
	-		Bottom of Borehole at 19.5 feet below ground surface.					
	4370 —							
	4360 —							



1) Monitoring point elevations resurveyed in 2008

NOTES:

FIGURE 9. Slot Monitor We

Slot Monitor Well Schematics (not to scale)

z) Well IDs were changed + indvertently swapped > 5 years ago. Actual depth confirmed with weighted tape measure.

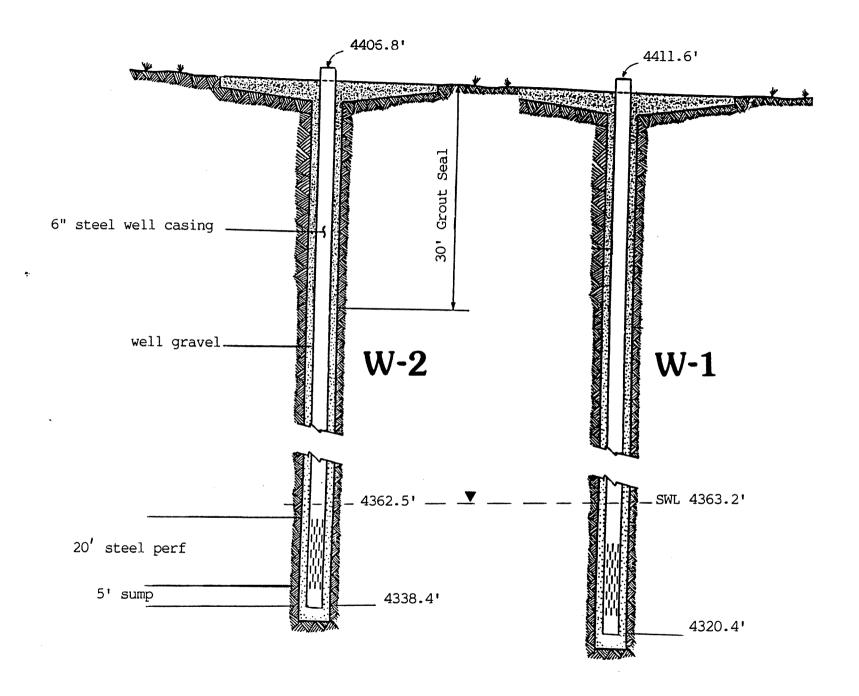


FIGURE 9. Slot Monitor Well Schematics (not to scale)

## WELL LOG AND REPORT TO THE S

	Log No. 2424
TAKE	Rec. Dec. 4. 1957.
( - 4)	Well No
\ '\	Permit No#11Q
	Do not All in

		ENGI	NEER OF NEVAL	'A \	Permit No. #1/2
		Well #	2 AKA PWOIL 2		Do not All in
OwnerA	naconda			DrillerLuking	Bros.
Address	Yering	ton, Nev	vada	Address Yer:	ngton, Nev. Lic No. 9
Location of	well: £	1.14 KG.14	Sec. 2.1, T./2N/8, R.22.E	, inLyone	şC
)r					***************************************
Water will	be used for		Mill	Total dep	th of well321Ft
Size of dri	lled hole	14"	······································	Weight of casing per	linear foot
Thickness o	of casing	<u></u>	11	Temp. of water	
Diameter a	nd length of	casing	14" Dia. 10Ft.	Lenghta	320FT. casing 12" in diameter give outside diam
			-		
	_				34Ft.
If flowing v	vell describ	e control wo	rks	(Type and size of	valve, etc.)
		Oct	t. 2nd. 52	Date of completion	of well Nov. 6th. 1952
			Cable		
ribe or we			OF FORMATIONS		
From	To feet	Thickness	Type of mat	eriel	Water-bearing Formation, Casis Perforations, Etc.
feet O	feet 34	feet	Top Soil		
34	42		Gravel 1st. Water	Danut na	Chief aquifer (water-bearing formation)
				pearing	from 75 to 320
42	75		Cement Gravel		Other aquifers
75	<b>32</b> 0		Water Bearing Gra	nite Diwrigh	t
			,	4 .	
					***************************************
					First water at 34 feet
					Casing perforated
					from 34 to 318
		]			11011
	l	1			
					Size of perforations
	,				Size of perforations Chisel Slot 1/8
	,				Size of perforations Chisel Slot 1/8
	,				Size of perforations Chisel Slot 1/8

Well #2 AKA PWell 2

LOG OF FORMATIONS-Continued Thickness Type of material CASING BECORD To feet "Remarks".-Seals, Grouting, Etc. Length 14" 320 320ft. Sealed in Granite ٥ GENERAL INFORMATION-Pumping Test, Quality of Water, Etc. 658 Per. Min. WELL DRILLERS STATEMENT (Not to be filled in by Driller) This well was drilled under my jurisdiction and the above information is true to my best information and belief. Signed.....Luking Bros Partner By Mulering DEFICE 

WHITE—DIVISION OF WATER RESOURCES CANARY—CLIENT'S COPY PINK—WELL DRILLER'S COPY

### STATE OF NEVADA DIVISION OF WATER RESOURCES

Log No. 2993
Permit No. Basin C-102

## WELL DRILLER'S REPORT

PRINT OR TYPE		I	lease com	plete this	form in its entirety						
						NOTICE OF INTENT NO. 7431 ATION NONE					
MAILING ADDRE	ss. 12 5	MA.L	<u>~</u>			Willow Crask Say					
4EBINGT	QN NV	89 H H	7		3 Miles NW of Ye	erington Nev	vada				
2. LOCATION	55 4 SN	¼ Sec	40.	T	2		L C L D	County			
PERMIT NO	ssued by Water Resou	rces		Parcel No.	3	WILLOW CHEE	ubdivision Name				
3.	TYPE OF WORK			4.		PROPOSED USE [ MO	nitor 1	5. TYPE WELL			
New Well		ndition						Cable □ Rotary 🖾			
			☐ Domestic ☐ Municipal ☐								
Deepen	☐ Othe	r		Mun	nicipal [	Industrial 🗆	Stock 🗆	Other 🗆			
6.	LITHOLO	Water	3		Thick-	8. WEI Diameter 6 3/4	LL CONSTRUCT inches Total de	6.0			
Mater	rial	Strata	From	То	ness		inches	-			
200/	/ =1===		0	5		Casing record 2" S	inches CH 40 PV	С			
20% sand 80%	Clay	-	<u>u</u>	+-2							
90% sand 10%	Clay	-	5	10		Weight per foot					
50% Sand 10%	CLay		J	110	<del>                                     </del>	Diameter 2 inches	-1 feet	-60 57 feet			
100% sand		xx	10	14	<del>                                     </del>	inches					
100/6 Satia		^^	10	+ +			feet	feet			
Course Grave	1	xx	14	37			feet	feet			
COGLSC GIGVE		~	1-7	1.57	<del>                                     </del>		feet				
Gray Clay		-	37	38	<b>†</b>	inches					
Gray Clay			J,	1 22		Surface seal: Yes	No - Type	Concrete			
Course Grave	-1	xx	38	53		Depth of seal	5 · Type	faet			
DOGE DE GEGVE		2021		100		Gravel packed: Ves 🕅	No (*)				
Brown Clay			53	60	T.D.	Gravel packed: Yes  Gravel packed from	feet t	n - <del>50</del> 1 57′ feet			
						1					
						Perforations:					
Wain	es issue	2	5-1	Ф- <i>®</i>	<b>8</b>	Type perforation	Skill Sav				
						Di	1/0" ~ 5"				
	****					From -101 2'	feet to	0 3 7 feet			
	52					From	feet to	feet			
	<u>.</u> 5					From	fect to	feet			
	E					From:	feet to	feet			
	771.					From	feet to	feet			
	<u></u>										
	<b>₹</b> ?					9.	WATER LEVEL				
	= 1					Static water level		feet below land surface			
	<b>88</b> 4	1						none P.S.I.			
		5				Water temperature⊆⊆Ω1.	°F Quality				
Date started	5/11/88				,	il 10 DD111	ER'S CERTIFIC	ATION			
Date completed	5/12/88				, 19			and the report is true to the			
7.	WELL TI	EST DAT	A			best of my knowledge.	a Pump & Dr	•			
Pump RPM	G.P.M.	Draw I	Down	After Hou	rs Pump	li .	Contractor				
						Address P.O. Box 18	3507 Reno, I	Nevada			
						Nevada contractor's licens issued by the State Con-	se number	12236E			
						Nevada contractor's drille issued by the Division of	r's number	1202			
	BANGE	R TEST				Nevada driller's license n Division of Water Reso	umber issued by the	he			
G.P.M. 10	Dra	w down		feet	hours	I was Declared to	12/11/11/11				
G.P.M				fcet				g on site or contractor			
G.P.M	Dra	w down		feet	hours	Date 5/12	2/88				

## STATE OF NEVADA DIVISION OF WATER RESOURCES

### WELL DRILLER'S REPORT

PRINT OR TYPE ONLY DO NOT WRITE ON BACK Please complete this form in its entirety in accordance with NRS 534.170 and NAC 534.348

	OFFICE USE ONLY
Log No.	104290
Permit N	0
Basin	108

60076

								_			FINTENT NO.	60087	
OWNER Lyon County Utilities						ADDRESS AT WELL LOCATION Intersection of Scarsdale and Silverado							
MAILING ADDRESS 18 Highway 95A North, Yerington, NV													
89447						Subdivision Name: County: Lyon							
						Latitude	39*2.6	623N	TM E	X NAD 2	27		
PERMITWAIVER No. NEV 40039 0:4-341-13						Longitude	119'11	.550WN		NAD 8	3/MGS (%)		
	ued by Water Re				Parcel No	).							
_	WORKED				4.			OSED USE		5.	WELL TYPE		
	Replace		Reconditi	on	☐ Don	nestic	[	Irrigation	☐ Test	☐ Cabl		RVC	
☐ Deepen ☐	Other				☐ Mur	nicipal/Indu	ustrial [	x Monitor	☐ Stock	☐ Air	Other		
6.		LITHOL	OGIC LO	G			9.		WELL (	CONSTRUCT	ION		
Ma	aterial		Water	From	To	Thick-	Depth D	rilled		eet Depth Ca		Feet	
			Strata			ness			HOLE DIAM	IETER (BIT S	(ZE)		
Sand				0	3	3	]			From	To		
3/4 Gravel				3	4	1		10	Inches		Feet 26	Feet	
Sand w/ Small	Gravel			4	26	22			inches		Feet	Feet	
					ļ				Inches		Feet	Feet	
					<u> </u>		11 .			SCHEDULE	1		
							Size O.D.	Weight/Ft.		Thickness	From	То	
							(Inches)	(Pounds)	<u> </u>	nches)	(Feet)	(Feet)	
							2	PVC	Sche	edule 80	+2	25	
	14.4 6.3				-	-	-		+		+	+	
					-	_	lacksquare			rforations:			
<del>- [] </del>	<del>_ 5</del> -				1	_	4	Time of and an			Mill Clot		
	- 12		$\vdash$		_	_	41	Type of perfora Size of perforal	tion		U U3		
	141		$\vdash$		<del>                                     </del>	-			12 1/2	foot to	22 1/2	foot	
111 C	<del>5 ½ -</del>				<del>                                     </del>	_	From		12 1/2	feet to	ZZ 1/Z	feet	
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	4 3				<del>                                     </del>	<del>                                     </del>	From			feet to		feet	
<u> </u>	3 📆		-		 	+	From			feet to		feet	
- 7					+	 	From			feet to		feet	
	⊲.						110111		Annular	Seal: X Yes	□No	icet	
	1 1/2				 		[x] Neat C	ement	O to			Poured	
							Cemen		to			Poured	
						 	Concre		to	THE REAL PROPERTY.	=	Poured	
N 39.04371	7				1	<u> </u>	≥30% E	Sentonite Grout	to		_	Poured	
W 119,192550		?7				<u> </u>	Gravel Paci	C X Yes [No 10	to 23 X	Pumped [Poured	
							Type:			8 X 16			
							Bentonite C	hips: 🗷 Y	es 🗌 No 23	to 26	Pumped [Poured	
Date started:		18-J	ul		, 20	07	Type:			3/8 Hole Plu	g		
Date completed:		18-J	ul		. 20	07						-	
7.		Wate	er Level				10.		DRILLER	'S CERTIFIC	ATION		
Static water level	t:t	14'			low land	surface	This	well was drilled	under my super	vision and the r	eport is true to the I	best of my	
Artesian Flow:		NA	G.P.M.	N/A	\	P.\$.I.	knowledge						
Water Temperature	e:	Cool	°F				Name	Hydro Re			Humboldt Drilli	ng & Pump	
Quality:			Good				1			Contractor			
8.			EST DA				Addre	:55		W. Winner	nucca Blvd.		
TEST METHOD:	: Baile	· 🗆	Pump	X Air Li	ft.		Į.			Contractor			
	G.P.M.		aw Down		Time (Ho	ours)	1			ca, Nevada	89445		
		(Feet	Below Statio	9			Nevad	a contractor's li	cense number				
					2		issued	by the State C	Contractor's Boar	rd	56797		
							-11		number issued	by the			
	_	1					Divisi	on of Water Re	sources, the on-	site driller	217	7	
							4	[]	1.1.1		000		
				\rightarrow			Signed	\.	iau 🖘	eacu,	Office		
		₩					-	,	o, ame peromety	0/40/200			
							Date			9/18/200	r .		

STATE OF NEVADA DIVISION OF WATER RESOURCES WELL DRILLER'S PLUGGING REPORT

Please complete this form in its entirety in

	Log No.	OFFICE USE ONLY
١	Permit No.	
J	Permit No. Basin	/ U K

PRINT OR TYPE ONLY DO NOT WRITE ON BACK accordance with NRS 534.170 and NAC 534.340 NOTICE OF INTENT NO. 1 OWNER Lyon County Utilities ADDRESS AT WELL LOCATION 314 Virginia Street MAILING ADDRESS 18 Highway 95A North, Yerington, NV Yerington, NV 89447 County: Lyon Subdivision Name: 2 LOCATION SE 1/4 % Sec Latitude 39°2.618N X UTM E NAD 27 NEV 40039 014-241-13 PERMITWAIVER No. Longitude 119°11.821W NAD 83/WGS 84 issued by Water Resources Parcel No TYPE OF WELL YES Is this well being plugged because a Is there an existing well log? Domestic ☐ Irrigation Test replacement well was drilled? Yes Municipal/Industrial Monitor Monitor Stock 60076 If yes, what is NDWR well log #? 99901 If yes, what is replacement well NOI? EXISTING WELL CONSTRUCTION WELL PLUGGING PROCEDURE Depth Drilled 25 Feet Depth Cased Was well cleaned out to total depth?

☑ yes ☐ no EXISTING CASING SCHEDULE f well was not cleaned out to total depth, please explain why. Size O.D. Weight/Ft. Wall Thickness From Τo (Inches) (inches) (Pounds) PVC 2 SCHED 40 25 +1 Was the well contaminated? yes XI no Was the casing pulled? ☐ yes ဩ no Was the casing over drilled? ☐ yes Existing Perforations If casing was left in place, please show where additional perforations were made Type of perforation FAC Additional Perforations: Size of perforation 0.02 Type of perforater used: N/A From 15 feet to 25 feet From feet to feet Number of perfs per linear foot From feet to feet From feet to feet Number of perfs per linear foot From feet to feet to Number of perfs per linear foot feet From feet From Number of perfs per linear foot feet to feet From feet to feet From feet to From feet to feet Number of perfs per linear foot WATER LEVEL Number of perfs per linear foot From feet to feet 16 Static water level WELL PLUGGING MATERIALS feet below land surface a Artesian flow G.P.M. Material Used ٥E Water temperature Quality From 0 feet to 25 NEAT CEMENT ☑ Pumped Poured Additional Notes or Comments Poured feet to feet Dumped From Poured Pumped From feet to feet Pumped ☐ Poured From feet to feet feet ☐ Pumped ☐ Poured From feet to ☐ Pumped ☐ Poured From feet to feet Neat Cement Fluid Weight lbs/gal Bentonite Grout % bentonite Date Started 7/18/2007 Date Completed 7/18/2007 DRILLER'S CERTIFICATION This well was plugged and abandoned under my supervision and the report is true to the best of my knowledge. Humboldt Drilling and Pump Co. Name Tij 4975 W. Winnemucca Blvd. Address Winnemucca, Nevada 89445 da contractor's license number issued by the State Contractor's Board 56797 N 39.043633 W 119.197617 Nevada driller's license number issued by the WADDO 2177 Division of Water Respurces, the on-site Signed

USE ADDITIONAL SHEETS IF NECESSARY

9/18/2007

STATE OF NEVADA DIVISION OF WATER RESOURCES WELL DRILLER'S PLUGGING REPORT

Please complete this form in its entirety in accordance with NRS 534.170 and NAC 534.34

Log No.	OFFICE USE DAY
Permit No.	,
Basin	108

PRINT OR TYPE ONLY DO NOT WRITE ON BACK

	NOTICE OF INTENT NO. 60074										
1 OWNER	R Lyon Cou	inty Utilities			ADDRES	SS AT WELL	LOCATION	314 Virginia Street			
		Highway 95A Norti	h, Yerington,	NV	Yerington, NV						
89447						Subdivision Name: County: Lyon					
2 LOCATION	ON SE 1/4	SW 1/4 Sec 28	T 14 M	S.R. 25	E Latitude	39*2.	618N	UTM E	X	NAD 27	
PERMITAVA	AIVER No.	NEV 40039	014-0		Longitude	119'11	F1:50 188 (0.00 PF1 45:00 1 45:00 1 18:00	N		NAD 83/WGS 84	
		issued by Water Resources	Parce		"				. –		
3_		TYPE OF WELL		Is this v	ell being plug	ged because a		Is there an existing v	vell log?	YES	
☐ Domestic		Irrigation	☐ Test	replace	ment well was	drilled?	Yes	1	-		
Municipa		Monitor Monitor	☐ Stoc	k Hyes, wi	nat is replaceme	ent well NOI?	60076	If yes, what is NDWR v	vell log #?	99902	
4		TING WELL CONSTR			7			GGING PROCEDUR	E		
Depth Dri						ned out to total		yes no			
		ING CASING SCHE	1		f well was not	deaned out to	total depth, ple	ase explain why:			
Size O.D. (Inches)	Weight/Ft. (Pounds)	Wall Thickness (Inches)	From (Feet)	To (Feet)							
2	PVC	SCHED 40	+1	25							
	FVC	SCHED 40	+ 1	~	Alac the well a	contaminated?	yes	⊠ no			
						og pulled?	_ <u>-</u>	LAI NO			
						ng over drilled?	<u> </u>	IXI no			
		Existing Perforations:				-		re additional perforation	s were mad	ie:	
	Type of perfo	ration	FAC		Additional Per	forations:					
	Size of perfo		0.02		Type of	perforater used	l:	N.	A		
From	15	feet to	25	feet	From	feet to	feet	Number of perfs pe	er linear foo	at	
From		reet to		feet	From	feet to	feet	Number of perfs pe	er linear foo	N	
From		feet to		feet	From	feet to	feet				
From		feet to		feet	From	feet to	feet	Number of perfs pe			
From 5		feet to		feet	From	feet to	feet	Number of perfs po			
Static wat	lee la unt	WATER LEVEL 16 fe	et below land s		From 8	feet to	feet	Number of perfs po JGGING MATERIALS		м	
Artesian		GPM	et below lariu si	P.S.I	0		VVECEFEC	Material Used			
Water tem		• F	Quality		From 0	feet to	25 feet		X Pump	ed Poured	
6	Add	itional Notes or Cor	mments		From	feet to	feet		Pump		
					From	feet to	feet		Pump	ed Poured	
						feet to	feet		D Pump	ed Doured	
					From	feet to	feet		Pump		
					From	feet to	feet			ed Poured	
						ent Fluid Wei	ght	lbs/gal			
111	 5-				Bentonite Grout						
					Date Completed 7/18/2007						
	- 1				9 DRILLER'S CERTIFICATION						
LL	0 %				This well was plugged and abandoned under my supervision and the report is true						
\circ	CO (2)				to the best of my knowledge.						
1:1	员 5				Name		Humb	oldt Drilling and Pu	mp Co.		
S N P						Contractor					
	3 3				Address		49	75 W. Winnemucca	Blvd.		
	7 5							Contractor			
				Winnemucca, Nevada 89445							
					Nevada contractor's license number issued by the State Contractor's Board 56797					7	
A1 20	.043637					-			5679	<u></u>	
	193067	NADZZ				r's license numb on of Water Res	-		2	177	
	, , , ,	1-1067			DIVISIO	or male res	*	0 -	<u>-</u>		
					Signed	k 4	uduc	Sencl K	Dec	w.	
							By driller performing	actual drilling on alte or centra	P-0		
					Date	· · · · ·		9/18/2007			

WHITE-DIVISION OF WATER RESOURCES
CANARY-CLIENT'S COPY
PINK-WELL DRILLER'S COPY
DIVISION OF WATER RESOURCES
DIVISION OF WATER RESOURCES

OFFICE USE ONLY	
Permit No	
Basin_108	

PRINT OR TYPE ONLY	\ 				R'S REP		Basin_108		
DO NOT WRITE ON BACK	_	Plea	se comple	ete this for	rm in its enti: 170 and NAC	rety in			
1. OWNER David Sc	lini				ADDRESS A		NOTICE OF IN		50781
MAILING ADDRESS P. O.	XUX	#101	3			514	zirginia.		7775
Verington	MV	8941	Ł.Z	14	75 T	سالح	11.	V 094	
2. LOCATION SE UNICO	<u>د</u>	. AU V -	1-120	78 78 +13	(N) s R 2	E	Lyon		County
PERMIT NO. 1100 4005	urces	lon-i-	Parcel No.	vo)		Subdivision Name		
3. , WORK PERFORM	/ED		4.		PROPOSED	USE	5.	WELL TYP	
	Recond			Domestic Municipal/	Industrial	Irrigation Monitor	☐ Test ☐ Cal ☐ Stock ☐ Air	ble ☐ Rotar r ② Other	y □ RVC rauga
6. LITHOL	OGIC LO	og N	$\alpha\omega$	3	8.	20	LL CONSTRUCTION	~ ~ ~	
Material	Water Strata	From	To	Thick- ness	Depth Drill		DIAMETER (BIT		Feet
						_	From	To	
	1	ļ	ļ.,			8nct	esOFeet.	25 F	eet
<u> </u>	<u> </u>	10	l b			Inch			eet
11:2		10	15				esFeet		eet
SM MAY 2114		10	13				ASING SCHEDUL	ī	
OVERLIE SULVE	(e'	15	75		Size O.D. (Inches)	Weight/Ft. (Pounds)	Wall Thickness (Inches)	From (Feet)	To (Feet)
7					7_	W.	SUN 40.	0	25_
		-							
	_	 	 		Perforation				1
	-				II .	s. erforation	Fac		
					Size pe	rforation	020		
					From	1.	feet to	J	feet
		-					feet to		feet
		+					feet tofeet to		
		 	-		Surface Se	al: (ZXYes			_
					i	ealea	· The second sec	Seal Ty	eat Cement
						Method:			ement Grout
		 	ļ			À	Poured		oncrete Grout
		-			Gravel Pac	ked: 🄀 Y			
	 	1			From	12	feet to	·2	feet
					9.	r levelLG	WATER LEVEL		
					Static water Artesian flo		NIA G	feet below	v land surface
	-	┼	1			erature.CD	A°F Quality	W.	P.S.I.
					10.		LER'S CERTIFICA		
1/18				., 200).	1		der my supervision a		is true to the
Date started				2012.W		knowledge.	مَن مَن	115	
				, 20 20	Name	none	zeni na	uiviq	
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PRINT OR TYPE ONLY DO NOT WRITE ON BACK

STATE OF NEVADA DIVISION OF WATER RESOURCES

WELL DRILLER'S REPORT

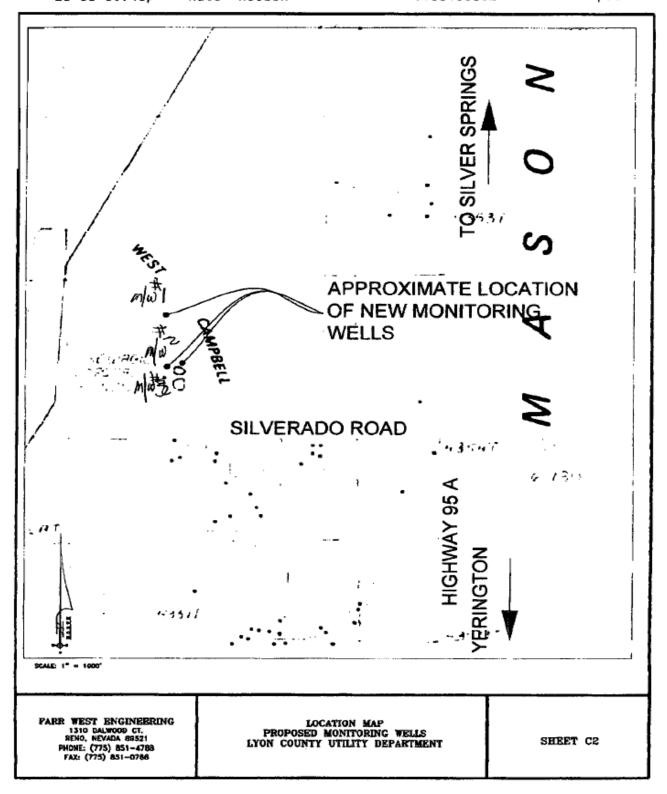
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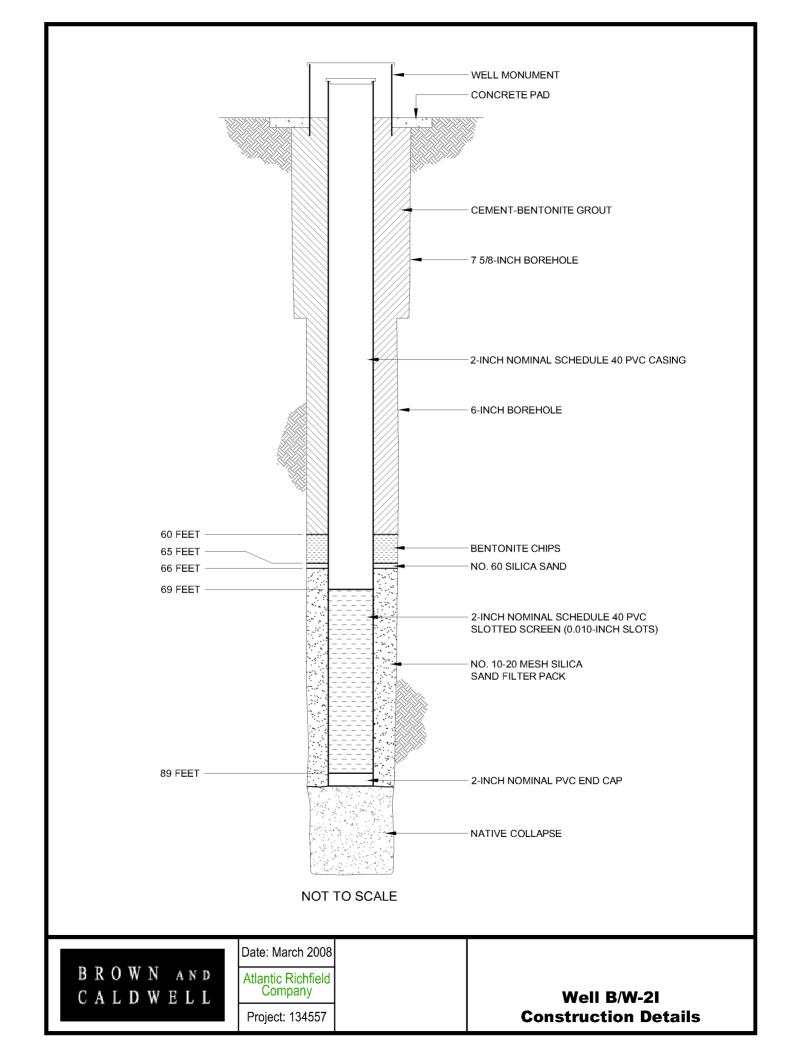
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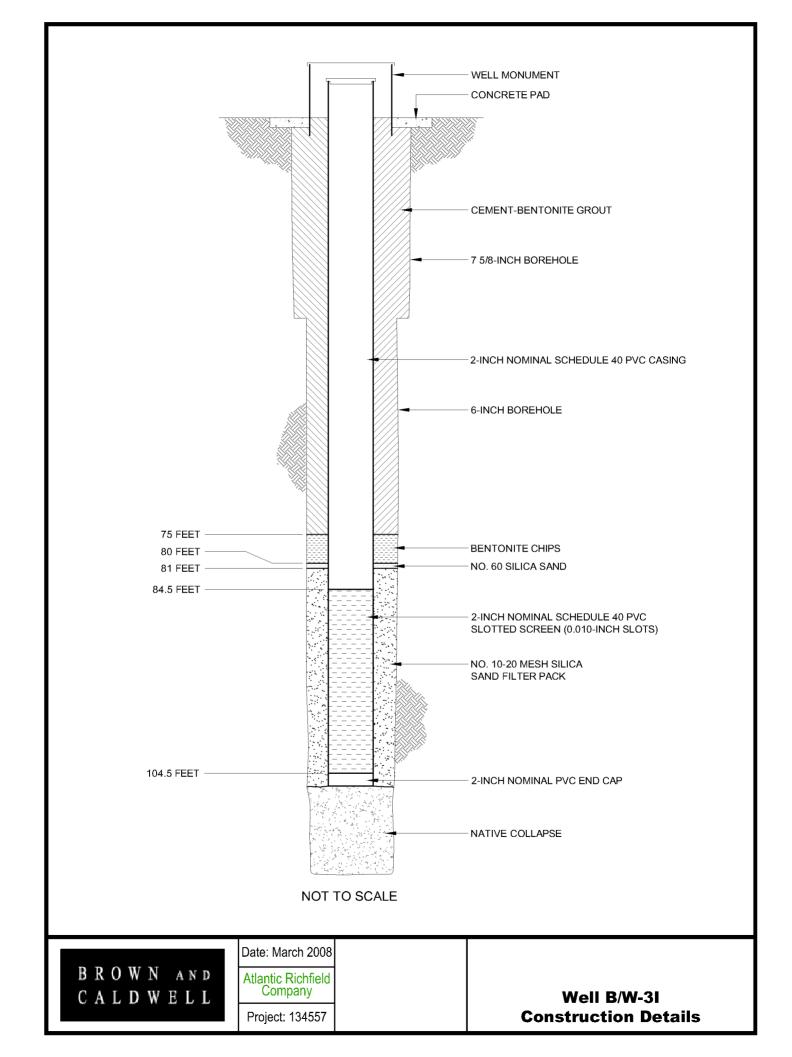
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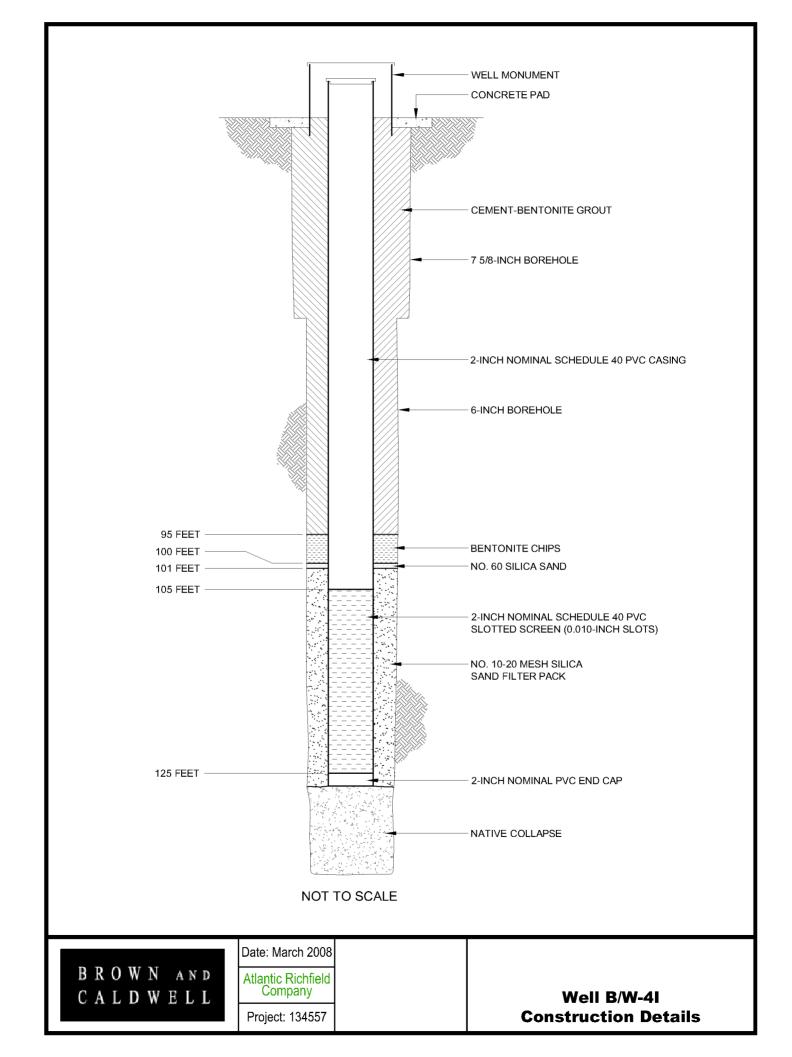
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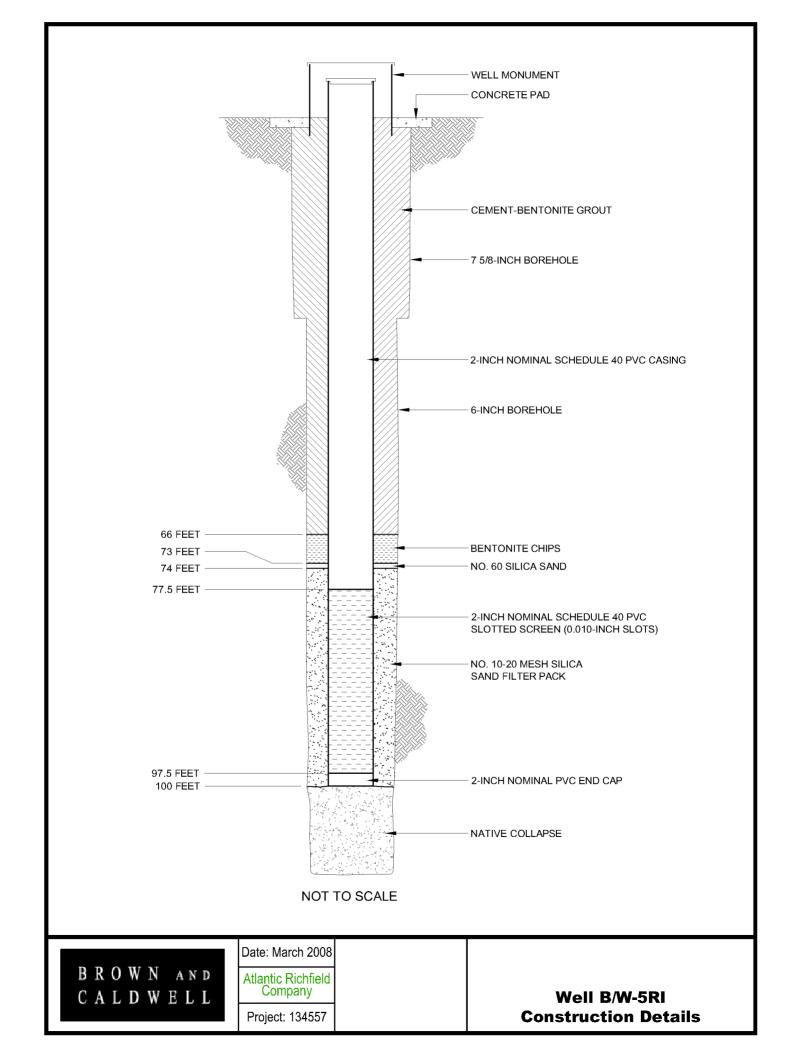
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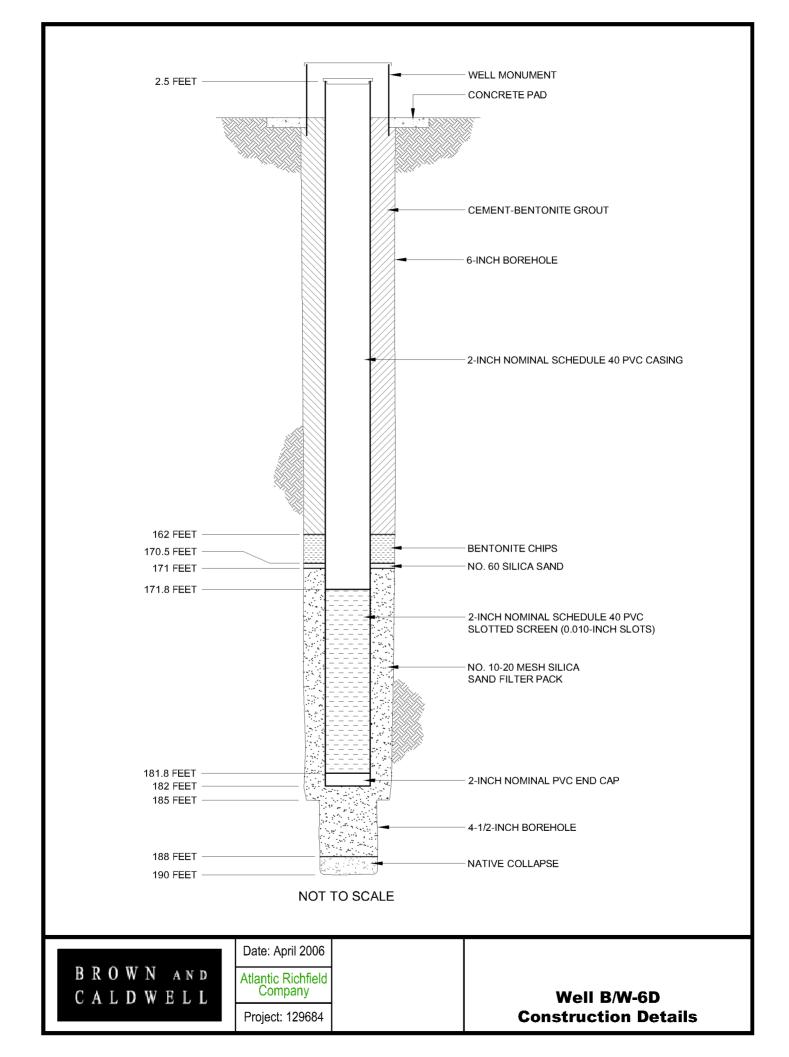












BORING LOG

Well Number: **B/W-6** Project Name: **Yerington Groundwater Investigation** 121243.021 <u>1</u> of <u>15</u> ${f X}$ Monitoring Well Soil Boring Project Number: Sheet East: **319206.9** Boring Location: West of mine tailings, along Locust Drive Elevation: 4431.5 feet amsl North: 1554968.4 Drilling Contractor: WDC 9/26/05 Driller: **B. Zamow** Date Started: 9/23/05 Date Finished: Total Water Depth: Drilling Equipment: Gus Pech GP24-400RS, Diedrich Sonic Head 135' / 100.43 190.0 Depth: (feet) (feet) Well Diameter Sampling Method: Core Barrel Borehole Diameter: 6" 2-inch PVC and Material: Screened Interval Drilling Method: Sonic, utilized 6" casing and a 4.5" core barrel 171.8-181.8 ft., bottom at 182.0 ft. and Well Depth: Slot Size: **0.020''** Filter Material: #10-20 Silica Sand Well Seal: Bentontite and Cement Logged By: C. Gardner Swabbed, bailed, pumped Development Method: Graphic Log SCS Group Symbo Elevation (feet) Depth (feet) Sample No Lithology Sample Description Remarks Well SILTY SAND (0-2 feet) Descriptions of drilled cuttings based Dry, loose to medium dense, no odor. on ASTM Method D-2488 (the Primarily medium to fine sand with ~10% fine gravel to ~15 visual-manual procedure), grain-size mm and ~15% silt and clay. The gravel is angular to subangular. The fines are nonplastic, are brown, and do not determinations and nomenclature based on the Unified Soil Classification react to HCl. System. Munsell colors described wet. 4430 Horizontal survey data is expressed in the Nevada State Plane system, Nevada West zone, in feet. CLAYEY SAND (2-5 feet) Dry, dense, no odor. Primarily medium to fine sand with ~5% coarse sand to 4 mm and ~30% silt and clay. The sand is angular to subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. Sharp contacts indicated by solid lines, gradational contacts indicated by dashed line. All depths are below land surface unless stated otherwise. 5 SILTY SAND (5-7 feet) Dry, medium dense, no odor. WELL DESIGN for B/W-6D: Primarily medium to fine sand with trace coarse sand to 4 Screened Interval: 171.8-181.8 feet. mm and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and have a Bottom of sump: 182 feet. YERINGTON.GPJ BRN&CALD.GDT 1/31/06 strong reaction to HCl. Cement Grout: 0-162 feet. 4425 Bentonite Chips: 162-170.5 feet. Filter Pack: #60 Sand 170.5-171 feet, #10-20 Sand 171-188 feet. SILTY SAND (7-8 feet) Dry, dense, no odor. Native Collapse: 188-190 feet Primarily medium to fine sand with ~5% coarse sand to 4 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and have a weak to strong reaction to HCl. SM Depth to Water Measuring Point is SILTY SAND (8-14 feet) Top of PVC Casing. Dry, dense, no odor. Primarily medium to fine sand with ~5% fine gravel to ~10 Top of PVC Elevation: 4,434.01 feet, SONIC METHOD LOG mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have low PVC Stick-up: 2.5 feet above land plasticity and toughness, are brown, and have a strong surface. reaction to HCl.

BORING LOG

B/W-6 Yerington Groundwater Investigation Project Name: Well Number: 121243.021 2 of 15 ${f X}$ Soil Boring Monitoring Well Project Number: Sheet ISCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 4420 **SILTY SAND** (14-16.75 feet) Dry, dense, no odor. Primarily medium to fine sand with ~5% coarse sand to 4 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and have a 15. weak to strong reaction to HCl. 4415 <u>CLAYEY SAND</u> (16.75-17.25 feet) Dry, dense, no odor. Primarily medium to fine sand to ~2 mm with ~35% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react WELL-GRADED SAND with SILT (17.25-19.5 feet) Dry, medium dense, no odor. Primarily medium to fine sand with ~10% fine gravel to ~6 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 CLAYEY SAND (19.5-24 feet) Dry, dense, no odor. SC 20 Primarily medium to fine sand with trace fine gravel to 8 mm and ~35% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown to grayish brown, and have a strong reaction to HCl. 4410

BORING LOG

B/W-6 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 3 of 15 \mathbf{X} Soil Boring Monitoring Well Sheet Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SILTY SAND (24-26 feet) Dry, dense, no odor. Primarily medium to fine sand with trace fine gravel to ~10 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are 25 nonplastic, are brown, and have a strong reaction to HCl. SILTY SAND (26-30 feet) Dry, dense, no odor. 4405 Primarily medium to fine sand with ~5% fine gravel to ~5 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. 30 SANDY LEAN CLAY (30-31 feet) CL Dry, hard, no odor. Primarily silt and clay with ~50% medium to fine sand and trace coarse sand to ~3 mm. The sand is angular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and have a strong reaction SC to HCl. <u>CLAYEY SAND</u> (31-31.5 feet) 4400 Dry, very dense, no odor. SM Primarily medium to fine sand with ~5% fine gravel to ~10 mm and ~40% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 medium plasticity and toughness, are brown, and have a strong reaction to HCl. SILTY SAND (31.5-32 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to ~20 mm and ~20% silt and clay. The sand is angular to subrounded, the gravel is subangular to subrounded. The fines have low SM plasticity and toughness, and are brown. CLAYEY SAND (32-32.75 feet) Dry, very dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are grayish brown, and have a strong reaction to 35 **SILTY SAND** (32.75-33.5 feet) Dry, very dense, no odor. Primarily medium to fine sand to ~2 mm with ~20% silt and clay. The sand is angular to subrounded. The fines are nonplastic, are brown, and have a strong reaction to HCl SILTY SAND (33.5-34 feet)

BORING LOG

B/W-6 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 4 of 15 \mathbf{X} Monitoring Well Sheet Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Dry, very dense, no odor. 4395 Primarily medium to fine sand with ~10% fine gravel to 8 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and have a strong reaction to HCl. CLAYEY SAND (34-35.75 feet) Dry, very dense, no odor. Primarily medium to fine sand to ~2 mm with ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. **SILTY SAND** (35.75-38.5 feet) Dry, very dense, no odor. CL Primarily medium to fine sand with ~10% fine gravel to ~10 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. SANDY LEAN CLAY (38.5-39 feet) Dry, hard, no odor. Primarily silt and clay with ~50% medium to fine sand to ~2 SM mm. The sand is subangular to subrounded. The fines have 40 medium plasticity and toughness, are brown (10YR 5/3), and have a strong reaction to HCl. **SILTY SAND** (39-39.75 feet) SM Dry, very dense, no odor. Primarily medium to fine sand with ~10% fine gravel to ~10 mm and ~20% silt and clay. The sand is angular to subrounded, the gravel is angular to subangular. The fines 4390 are nonplastic, are brown, and have a strong reaction to HCl. **SILTY SAND** (39.75-40.5 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~5% coarse sand to 4 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and are brown. SILTY SAND (40.5-41 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~10% fine gravel to ~10 SC mm and ~20% silt and clay. The sand is angular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. SANDY LEAN CLAY (41-43 feet) CL Dry, hard, no odor. Primarily silt and clay with ~45% medium to fine sand and trace fine gravel to ~5 mm. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown (10YR 5/3), and have a strong reaction to HCl. CLAYEY SAND (43-43.75 feet) 45 Dry, very dense, no odor. 1/31/06 Primarily medium to fine sand with trace fine gravel to ~10 mm and ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT toughness, are brown, and have a strong reaction to HCl SANDY LEAN CLAY (43.75-45.5 feet) Dry, hard, no odor. 4385 Primarily silt and clay with ~40% medium to fine sand with trace fine gravel to ~10 mm. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown (10YR 5/3), and have a strong reaction to HCl. SANDY LEAN CLAY (45.5-46.5 feet) Dry, no odor. Primarily silt and clay with ~45% medium to fine sand with trace fine gravel to ~10 mm. The sand is subangular to SM subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown (7.5YR 5/3), and have a strong reaction to HCl SILTY SAND with GRAVEL (46.5-48 feet) Dry, very dense, no odor. Primarily coarse to medium sand with ~20% fine gravel to

BORING LOG

B/W-6 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 5 of 15 \mathbf{X} Monitoring Well Soil Boring Sheet Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SM ~15 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. SILTY SAND with GRAVEL (46.5-48 feet) 50 Dry, very dense, no odor. Primarily medium to fine sand with ~15% fine gravel to ~10 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. WELL-GRADED SAND with SILT (49-49.5 feet) Dry, very dense, no odor. Primarily medium to fine sand with trace fine gravel to 8 mm 4380 and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. CLAYEY SAND (49.5-50 feet) SM Dry, very dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and low toughness, are brown, and have a strong reaction to HCl. CLAYEY SAND (50-51.5 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~5% fine gravel to 8 mm and ~40% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl.

SILTY SAND (51.5-52.25 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~5% fine gravel to 12 55 mm and ~20% silt and clay. The sand is angular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. SILTY SAND (40.5-41 feet) Dry, very dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~35% silt and clay. The sand is subangular to subrounded. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCL CLAYEY SAND (53-54.5 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~10% fine gravel to ~10 mm and ~25% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. CLAYEY SAND (54.5-56 feet) Dry, very dense, no odor. BRN&CALD.GDT 1/31/06 Primarily medium to fine sand to ~1 mm with ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are grayish brown, and have a strong reaction to HCl. SILTY SAND (56-60.5 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~10% fine gravel to ~10 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have low SONIC METHOD LOG YERINGTON.GPJ plasticity and toughness, are brown, and have a strong reaction to HCl. **SILTY SAND** (60.5-62 feet) SM Dry, very dense, no odor. Primarily medium to fine sand with ~5% fine gravel to ~15 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are 4370 nonplastic, are brown, and have a strong reaction to HCl. CLAYEY SAND (62-63.5 feet)

BORING LOG

B/W-6 Yerington Groundwater Investigation Project Name: Well Number: 121243.021 <u>6</u> of <u>15</u> ${f X}$ Monitoring Well Soil Boring Project Number: Sheet SCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Dry, very dense, no odor. Primarily medium to fine sand to ~1 mm with ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. CLAYEY SAND (63.5-65 feet) Dry, very dense, no odor. Primarily medium to fine sand with trace fine gravel to ~5 mm and ~25% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. 65 WELL-GRADED SAND with SILT (65-68.75 feet) SW-Dry, dense, no odor. Primarily medium to fine sand with ~5% fine gravel to ~10 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and have no reaction to a strong reaction to HCl. 4365 SM | SILTY SAND (68.75-75 feet) Dry, dense, no odor. Primarily medium to fine sand with ~10% fine gravel to ~15 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. 70-SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 4360 SW- WELL-GRADED SAND with SILT (75-76 feet) SM Dry, dense, no odor.

BORING LOG

B/W-6 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 7 of 15 Soil Boring Monitoring Well Sheet Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily medium to fine sand with trace coarse sand to ~3 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and have a strong reaction to HCl. WELL-GRADED SAND with SILT and GRAVEL (76-80 SM feet) Dry to moist, dense, no odor. Primarily medium to fine sand with ~15% fine gravel to ~15 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. 80 SILTY SAND (80-83 feet) Dry, dense, no odor. Primarily medium to fine sand with ~10% fine gravel to ~15 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. 4350 SW-WELL-GRADED SAND with SILT and GRAVEL (83-85 feet)
Dry to moist, dense, no odor. SM Primarily medium to fine sand with ~15% fine gravel to ~15 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 WELL-GRADED SAND (85-87.5 feet) Dry, medium dense, no odor. Primarily coarse to medium sand to ~4 mm with ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and have a weak reaction to HCl. 4345 WELL-GRADED SAND with SILT (87.5-88.5 feet) Dry, medium dense, no odor. Primarily coarse to medium sand with ~10% fine gravel to 8 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines

BORING LOG

B/W-6 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 8 of 15 \mathbf{X} Monitoring Well Soil Boring Sheet Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well are nonplastic, are brown, and have a strong reaction to HCl. **SILTY SAND** (88.5-90.5 feet) Dry, medium dense, no odor. Primarily medium to fine sand with ~5% fine gravel to ~5 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. 90 WELL-GRADED SAND (90.5-93.5 feet) Dry, medium dense, no odor. Primarily medium to fine sand with ~5% fine gravel to 8 mm and ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines <u>4340</u> are nonplastic, are brown, and have a strong reaction to HCl. **SILTY SAND** (93.5-94 feet) Dry, medium dense, no odor. Primarily medium to fine sand with ~5% coarse sand to 4 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and have a weak reaction to HCl. SANDY LEAN CLAY (94-95 feet) Dry, hard, no odor. 95 Primarily silt and clay with ~50% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 4/3), and do not react to HCl. SILTY SAND with GRAVEL (95-97.5 feet) Dry, very dense, no odor. Primarily sand with ~20% fine gravel to ~10 mm and ~15% silt and clay. The sand and gravel are angular to subangular. 4335 The fines are nonplastic, are brown, and have a strong reaction to HCl. YERINGTON.GPJ BRN&CALD.GDT 1/31/06 SANDY LEAN CLAY (97.5-99 feet) CL Dry, hard, no odor. Primarily silt and clay with ~45% medium to fine sand and \sim 5% coarse sand to \sim 3 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and have a strong reaction to HCl. WELL-GRADED SAND with SILT (99-102 feet) Moist, very dense, no odor. Primarily medium to fine sand with ~5% fine gravel to ~5 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and have a weak reaction to HCl. SONIC METHOD LOG

BORING LOG

B/W-6 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 9 of 15 Monitoring Well Soil Boring Sheet Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SANDY LEAN CLAY (102-102.5 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~40% sand and ~10% fine gravel to ~15 mm. The sand is subangular to subrounded, the gravel is angular to subangular. The fines have medium plasticity and toughness, are strong brown (7.5YR 4/6), and have a strong reaction to HCl. CLAYEY SAND with GRAVEL (102.5-105 feet) Dry to moist, very dense, no odor. Primarily coarse to medium sand with ~15% gravel to ~20 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, are brown, and do not react to HCl. 105 WELL-GRADED SAND with SILT (105-107 feet) Moist (some saturated), medium dense, no odor. Primarily medium to fine sand with ~10% fine gravel to ~10 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and do not react to HCl. SM SILTY SAND with GRAVEL (107-109 feet) Dry to moist, medium dense, no odor. Primarily coarse to medium sand with ~20% fine gravel to ~15 mm and ~30% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. WELL-GRADED SAND with SILT (109-110 feet) Moist, medium dense, no odor. SM Primarily medium to fine sand with ~10% fine gravel to ~10 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are \nonplastic, are brown, and do not react to HCl. 110-SILTY SAND with GRAVEL (110-111.5 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with $\sim 15\%$ fine gravel to ~ 10 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. **SILTY SAND** (111.5-116 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with ~5% fine gravel to 12 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have no reaction to a weak reaction to HCl.

BORING LOG

B/W-6 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>10</u> of <u>15</u> ${f X}$ Soil Boring Monitoring Well Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 115 SM | SILTY SAND (116-116.5 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with ~10% coarse sand to ~3 mm and ~25% silt and clay. The sand is subangular to subrounded. The fines have low plasticity and toughness, are SM brown, and do not react to HCl. WELL-GRADED SAND (116.5-117.5 feet) Dry to moist, dense, no odor. SM Primarily medium to fine sand with ~15% coarse sand to 4 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl **SILTY SAND** (117.5-119 feet) Dry to moist, dense, no odor. Primarily coarse to medium sand with ~10% fine gravel to 8 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and do not react to HCl.

WELL-GRADED SAND with SILT (119-121.5 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with trace fine gravel to ~10 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are 120 nonplastic, are brown, and do not react to HCl. 4310 **SILTY SAND** (121.5-125 feet) Dry, very dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and have a strong reaction to HCl. BRN&CALD.GDT 1/31/06 125 SC CLAYEY SAND (125-128 feet) SONIC METHOD LOG YERINGTON.GPJ Dry to moist, dense, no odor. Primarily medium to fine sand with ~5% coarse sand to ~3 mm and ~35% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. 4305

BORING LOG

B/W-6 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>11</u> of <u>15</u> ${f X}$ Soil Boring Monitoring Well Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SILTY SAND with GRAVEL (128-134 feet) Dry to moist, dense, no odor. Primarily coarse to medium sand with ~15% fine gravel to ~15 mm and ~15% silt and clay. The sand is angular to subangular, the gravel is subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. 130 4300 SANDY LEAN CLAY (134-135 feet) Dry, hard, no odor. Primarily silt and clay with $\sim\!50\%$ medium to fine sand and trace fine gravel to $\sim\!10$ mm. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are weak red (2.5YR 5/4), and have a strong reaction to HCl.

WELL-GRADED SAND with SILT (135-136 feet) 135 SW-SM Saturated, medium dense, no odor. Primarily medium to fine sand with ~10% gravel to ~40 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and have a weak reaction to HCl 4295 WELL-GRADED SAND with GRAVEL (136-139 feet) Saturated, medium dense, no odor. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Primarily coarse to medium sand with ~25% gravel to ~40 @ 135 - 140 Ft mm and ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a weak reaction to HCl. B/W-6 WELL-GRADED SAND with SILT (139-139.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~10% gravel to ~40 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are 140 nonplastic, are brown, and have a weak reaction to HCl CLAYEY SAND with GRAVEL (136.5-143 feet) Dry to moist, dense, no odor. Primarily coarse to medium sand with ~15% gravel to ~50

BORING LOG

B/W-6 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>12</u> of <u>15</u> Monitoring Well Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well mm and ~40% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and low toughness, are brown, and have a strong reaction to HCl. 4290 <u>CLAYEY SAND</u> (143-143.5 feet) Dry to moist, dense, no odor. Primarily medium to fine sand to ~2 mm with ~35% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react **CLAYEY SAND** (143.5-144 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with trace fine gravel to ~5 mm and ~35% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and 145 toughness, are brown, and have a strong reaction to HCl. **SILTY SAND** (144.5-145 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace fine gravel to ~5 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and do not react to HCl. 4285 CLAYEY SAND (145-149 feet) Moist, dense, no odor. Primarily medium to fine sand with ~5% fine gravel to ~15 mm and ~40% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. SANDY LEAN CLAY (149-153 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~40% medium to fine sand and ~5% gravel to ~30 mm. The sand is subangular to subrounded, the gravel is subangular. The fines have SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 150 medium plasticity and toughness, are brown (7.5YR 5/4), and have a weak to strong reaction to HCl. 4280 **SILTY SAND** (153-157 feet) Dry to moist, dense, no odor. Primarily coarse to medium sand with ~10% fine gravel to ~10 mm and ~30% silt and clay. The sand is subangular to

BORING LOG

B/W-6 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>13</u> of <u>15</u> \mathbf{X} Soil Boring Monitoring Well Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well subrounded, the gravel is angular to subangular. The fines have low plasticity and toughness, are brown, and have a weak to strong reaction to HCl. 155 4275 WELL-GRADED SAND with GRAVEL (157-160 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with $\sim\!15\%$ fine gravel to ~15 mm and ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. @ 156 - 161 B/W-6 160 SM | SILTY SAND (160-162.5 feet) Moist with saturated seams, dense, no odor. Primarily coarse to medium sand with ~10% fine gravel to ~10 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have no reaction to a weak reaction to HCl. 4270 SM **SILTY SAND** (162.5-164.5 feet) Dry to moist, dense, no odor. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Primarily coarse to medium sand with ~10% fine gravel to ~10 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have no reaction to a strong reaction to HCl. SANDY LEAN CLAY (164.5-165 feet) CL Dry to moist, hard, no odor. Primarily silt and clay with ~40% medium to fine sand and 65 ~5% gravel to ~30 mm. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown (7.5YR 5/4), and have a weak to strong reaction to HCl. SANDY LEAN CLAY (165-166.5 feet) Dry to moist, hard, no odor. Primarily silt and clay with $\sim\!40\%$ medium to fine sand and $\sim\!5\%$ fine gravel to $\sim\!10$ mm. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are reddish brown (5YR

BORING LOG

B/W-6 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>14</u> of <u>15</u> \mathbf{X} Soil Boring Monitoring Well Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 5/4), and do not react to HCl. CLAYEY SAND with GRAVEL (166.5-168 feet) Moist, medium dense, no odor. Primarily sand with ~30% gravel to ~75 mm and ~40% silt and clay. The sand and gravel are subangular. The fines have medium plasticity and toughness, are reddish brown, and do not react to HCl CLAYEY SAND with GRAVEL (168-174 feet) Dry to moist, dense, no odor.
Primarily sand with ~20% gravel to ~25 mm and ~35% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. Interval is cobble penetrated from 172.5 to 173 feet. 170 4260 CLAYEY SAND (174-175 feet) Dry, very dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~20 mm and ~40% silt and clay. The sand is angular to subangular. The fines have medium plasticity and toughness, 175 Are brown, and do not react to HCL <u>CLAYEY SAND</u> (175-175.5 feet) Dry, very dense, no odor.

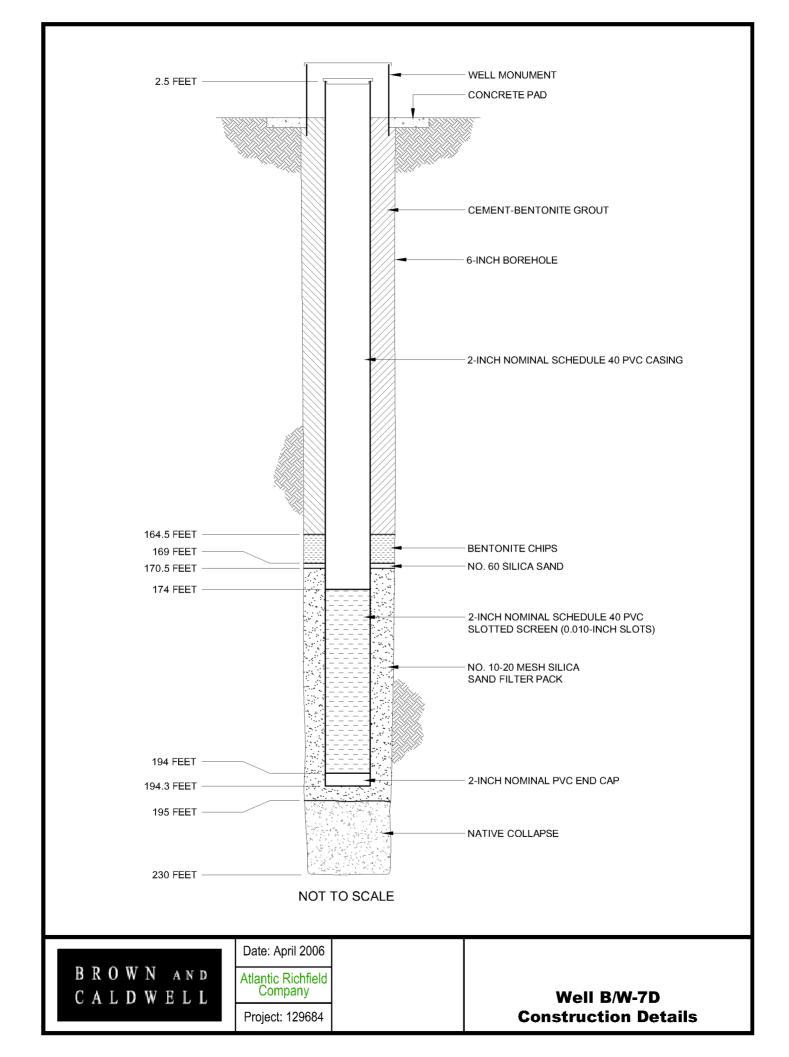
Primarily sand with ~10% fine gravel to ~10 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, are brown, SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 and have no reaction to a strong reaction to HCl.

CLAYEY GRAVEL with SAND (175.5-176 feet) Dry to moist, dense, no odor. Predominately gravel to ~50 mm with ~30% sand and ~30% (9) silt and clay. The sand and gravel are angular to subangular. B/W-6 The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl WELL-GRADED GRAVEL with SILT and SAND (176-177.25 feet) GC Saturated, medium dense, no odor. Predominately gravel to ~40 mm with ~15% coarse sand and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl CLAYEY GRAVEL with SAND (177.25-179 feet) Moist, dense, no odor. Predominately gravel to 30 mm with ~20% sand and ~40% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HČl. **WEATHERED TUFF** (179-181 feet)

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Well Number: **B/W-6 Yerington Groundwater Investigation** Project Name: 121243.021 Sheet <u>15</u> of <u>15</u> ${f X}$ Soil Boring Monitoring Well Project Number: SCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Dry to moist, very hard, no odor. Weathered tuff with ~50% fines. The weathered tuff is angular to subangular, to ~30mm. The fines have medium plasticity and toughness, are light yellowish brown (2.5Y 6/3) to pale yellow (2.5Y 7/3), and have a strong reaction to HCl. 4250 **WEATHERED TUFF** (182.5-183.25 feet) Dry, very hard, no odor. Weathered tuff with ~50% fines. The weathered tuff is angular to subangular, to \sim 30mm. The fines have medium plasticity and toughness, are light yellowish brown (10YR 6/4), and do not react to HCl.

WEATHERED TUFF (183.25-185 feet) Dry, very dense, no odor. Weathered tuff with ~20% fines. The weathered tuff is angular to subangular, to ~75mm. The fines have medium plasticity and toughness, are light yellowish brown, and do not react to HCl. Six-inch cobble at ~185 feet. 185 WEATHERED TUFF (185.5-188 feet) Dry to moist, very hard, no odor. Weathered tuff with ~80% fines. The weathered tuff is angular to subangular, to ~2mm. The fines have medium plasticity and toughness, are light gray (10YR 7/2), and do 4245 not react to HCl. WEATHERED TUFF (188-189 feet) Dry, very hard, no odor. Weathered tuff with ~50% fines. The weathered tuff is angular to subangular, to ~30mm. The fines have medium plasticity and toughness, are light yellowish brown (10YR \(\frac{6/4}{\text{, and do not react to HCl.}}\) SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 190



BORING LOG

B/W-7 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 1 of 18 ${f X}$ Monitoring Well Soil Boring Project Number: Sheet East: 317572 Boring Location: Northwest of mine tailings, on haul road Elevation: 4478.7 feet amsl North: 1560229.1 Drilling Contractor: WDC Driller: **B. Zamow** Date Started: **8/6/05** Date Finished: 8/14/05 Total Water Depth: Drilling Equipment: Gus Pech GP24-400RS, Diedrich Sonic Head 230.0 180' / 149.71 Depth: (feet) (feet) Well Diameter Sampling Method: Core Barrel Borehole Diameter: 2-inch PVC and Material: Screened Interval Drilling Method: Sonic, utilized 6" casing and a 4.5" core barrel 174.1-194.1 ft., bottom at 194.3 ft. and Well Depth: Slot Size: **0.020''** Filter Material: #10-20 Silica Sand Well Seal: Bentontite and Cement Logged By: C. Gardner Swabbed, bailed, pumped Development Method: Graphic Log SCS Group Symbo Elevation (feet) Depth (feet) Sample No Lithology Sample Description Remarks Well SILTY SAND with GRAVEL (0-2 feet) Descriptions of drilled cuttings based Dry, very dense, no odor. on ASTM Method D-2488 (the Primarily medium to fine sand with ~20% gravel to ~12 mm visual-manual procedure), grain-size and ~15% silt and clay. The sand and gravel is angular to determinations and nomenclature based on the Unified Soil Classification subangular. The fines are nonplastic, brown, and have a strong reaction to HCl. System. Munsell colors described wet. Horizontal survey data is expressed in the Nevada State Plane system, Nevada West zone, in feet. SW-WELL-GRADED SAND with SILT AND GRAVEL (2-3 feet) SM Dry, dense, no odor. Primarily coarse to medium sand with ~20% gravel to ~30 mm and ~10% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have a SW-Sharp contacts indicated by solid lines, strong reaction to HCl. gradational contacts indicated by WELL-GRADED SAND with SILT (3-3.5 feet) dashed line. Dry, dense, no odor. 4475 NR Primarily coarse to medium sand with ~5% gravel to ~25 mm, ~15% fine sand, and ~10% silt and clay. The sand is All depths are below land surface subangular to subrounded and the gravel is angular to subangular. The fines are nonplastic, brown, and have a unless stated otherwise. strong reaction to HCl NO RECOVERY (3.5-5 feet) 5 SM SILTY SAND (5-6 feet) Dry, dense, no odor. WELL DESIGN for B/W-7: Primarily medium to fine sand with ~10% gravel to ~30 mm, Screened Interval: 174-194 feet. ~15% coarse sand, and ~20% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The Bottom of sump: 194.25 feet. fines are nonplastic, brown, and have a strong reaction to 1/31/06 SW-HC1 SM Cement Grout: 0-164.5 feet. WELL-GRADED SAND with SILT (6-8.5 feet) SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT Dry, dense, no odor. Bentonite Chips: 164.5-169 feet. Primarily medium to fine sand with ~10% gravel to ~30 mm, Filter Pack: #60 Sand 169-170.5 feet, ~15% coarse sand, and ~10% silt and clay. The sand #10-20 Sand 170.5-195 feet. subangular to subrounded and the gravel is angular to Native Collapse: 195-230 feet subangular. The fines are nonplastic, yellowish brown, and have a weak reaction to HCl. Depth to Water Measuring Point is Top of PVC Casing. 4470 SC CLAYEY SAND (8.5-16 feet) Top of PVC Elevation: 4,481.21 feet, Dry, dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~25 PVC Stick-up: 2.5 feet above land mm, $\sim 15\%$ fine sand, and $\sim 30\%$ silt and clay. The sand is surface. subangular to subrounded and the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HČl.

BORING LOG

B/W-7 **Yerington Groundwater Investigation** Project Name: Well Number: 121243.021 2 of 18 ${f X}$ Soil Boring Monitoring Well Sheet Project Number: ISCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 4465 15 WELL-GRADED SAND with SILT (16-17.5 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~40 mm, ~15% fine sand, and ~10% silt and clay. The sand is subangular to subrounded and the gravel is angular to subangular. The fines are nonplastic, brown, and have a strong reaction to HCl. GM SILTY GRAVEL with SAND (17.5-18.5 feet) Dry, medium dense, no odor. Primarily gravel to ~30 mm, ~30% coarse to fine sand, and ~30% silt and clay. The sand and gravel is angular to subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl.

WELL-GRADED SAND with SILT (18.5-20 feet) 4460 SW Dry, dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~40 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 mm, ~15% fine sand, and ~10% silt and clay. The sand is subangular to subrounded and the gravel is angular to subangular. The fines are nonplastic, brown, and have a strong reaction to HCl. 20 SILTY SAND (20-22 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~5% gravel to ~20 mm, $\sim 15\%$ fine sand, and $\sim 20\%$ silt and clay. The sand is subangular to subrounded and the gravel is angular to subangular. The fines are nonplastic, brown, and have a strong reaction to HCl. SM SILTY SAND (22-23 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~5% gravel to ~20 mm, ~15% fine sand, and ~20% silt and clay. The sand is subangular to subrounded and the gravel is angular to

BORING LOG

Projec	t Nan	ne:	Yerington Groundwater Investigation		_ w	Vell Nu	mber:	B/W-7	
Soil B	oring		Monitoring Well Number	r:			1212	243.021	Sheet <u>3</u> of <u>18</u>
Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Sample No.	Sample	Lithology Lithology	Log		Remarks
25 —	4455	SM	subangular. The fines are nonplastic, brown, and have a strong reaction to HCl. SANDY LEAN CLAY (23-24 feet) Dry, dense, no odor. Primarily silt and clay with trace amounts of gravel to ~15 mm, trace amounts of coarse sand, and ~35% medium to fine sand. The sand is subangular to subrounded and the gravel is subrounded. The fines have medium plasticity and toughness, are grayish brown (10YR 5/2), and have a strong reaction to HCl. SILTY SAND (24-26.5 feet) Dry, medium dense, no odor. Primarily coarse to fine sand with ~5% gravel to ~10 mm, and ~35% silt and clay. The sand and gravel is angular to subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl.						
-	4450	SC	SILTY SAND (26.5-27.5 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~5% gravel to ~20 mm, ~15% fine sand, and ~20% silt and clay. The sand is subangular to subrounded and the gravel is angular to strong reaction to HCl. CLAYEY SAND (27.5-29 feet) Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to ~10 mm and ~30% silt and clay. The sand and gravel is angular to subangular. The fines have medium plasticity and medium to low toughness, brown, and have a strong reaction to HCl.						
30-			SILTY SAND (29-30 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~5% gravel to ~30 mm, ~15% fine sand, and ~15% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The \fines are nonplastic, brown, and have a weak reaction to HCl./ WELL-GRADED SAND with SILT (30-31.5 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~40 mm and ~10% silt and clay. The sand is subangular to subrounded and the gravel is angular to subangular. The fines are nonplastic, brown, and have a weak reaction to HCl.						
RN&CALD.GDT 1/31/06		SM	SILTY SAND (31.5-32.5 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~5% gravel to ~30 mm, ~15% fine sand, and ~15% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The \fines are nonplastic, brown, and have a weak reaction to HCl./ SILTY SAND (32.5-33.5 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~20 mm and ~15% silt and clay. The sand and gravel is subangular. The fines are nonplastic, brown, and have a						
G YERINGTON.GPJ	4445	SW- SM	strong reaction to HCl. WELL-GRADED SAND with SILT Dry, dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~40 mm and ~10% silt and clay. The sand is subangular to subrounded and the gravel is angular to subangular. The fines are nonplastic, brown, and have a weak reaction to HCl.						
35 — 35 — — — — — — — — — — — — — — — —		SC	CLAYEY SAND (35-37 feet) Dry, hard, no odor. Primarily coarse to medium sand with ~10% gravel to ~60 mm and ~35% silt and clay. The sand and gravel is subangular to subrounded. The fines have medium plasticity and toughness, are dark grayish-brown (10 YR 4/2), and						

BORING LOG

B/W-7 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 **4** of **18** Soil Boring Monitoring Well Sheet Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well have a strong reaction to HCl. SM SILTY SAND (37-41 feet) Dry, dense, no odor. Primarily coarse to medium sand with $\sim 10\%$ gravel to ~ 50 mm, $\sim 15\%$ fine sand, and $\sim 25\%$ silt and clay. The sand is subangular to subrounded and the gravel is subangular. The fines are nonplastic, brown, and have a strong reaction to HCl. 4440 40 CLAYEY SAND (41-42.5 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~60 mm and ~35% silt and clay. The sand and gravel is subangular to subrounded. The fines have medium plasticity and toughness, are dark grayish brown (10 YR 4/2), and have a strong reaction to HCl. CL SANDY LEAN CLAY (42.5-46 feet) Dry, very hard, no odor. Primarily silt and clay with trace amounts of gravel to ~12 mm, ~30% medium to fine sand, and ~5% coarse sand. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, are yellowish brown <u>44</u>35 (10YR 5/4), and have a strong reaction to HCl. 45 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 SILTY SAND with GRAVEL (46-47.5 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~15% gravel to ~40 mm and ~15% silt and clay. The sand is subangular to subrounded and the gravel is angular to subangular. The fines are nonplastic, brown, and have a strong reaction to HCl. CL SANDY LEAN CLAY (47.5-49 feet) Dry, hard, no odor. Primarily silt and clay with ~5% gravel to ~30 mm, ~30% medium to fine sand, and ~15% coarse sand. The sand is subangular to subrounded and the gravel is subangular. The fines have medium plasticity and toughness, are 4430 yellowish-brown (10 YR 5/4), and have a weak to strong reaction to HCl SM SILTY SAND with GRAVEL (49-50 feet)

BORING LOG

B/W-7 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 5 of 18 Soil Boring Monitoring Well Sheet Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Dry, dense, no odor. Primarily coarse to medium sand with ~15% gravel to ~40 mm and ~15% silt and clay. The sand is subangular to subrounded and the gravel is angular to subangular. The 50 CL fines are nonplastic, brown, and have a strong reaction to SANDY LEAN CLAY (50-54 feet) Dry, hard, no odor. Primarily silt and clay with ~5% gravel to ~20 mm, ~40% medium to fine sand, and ~5% coarse sand. The sand and gravel is subangular. The fines have medium plasticity and toughness, are pale brown (10 YR 6/3), and have a strong reaction to HCl. 4425 SILTY SAND (54-55 feet) Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to ~20 mm and ~40% silt and clay. The sand and gravel is angular to subangular. The fines have low plasticity and toughness, are horown, and have a strong reaction to HCl.

SANDY LEAN CLAY

Dry, hard, no odor. 55 Primarily silt and clay with trace amounts of gravel to ~8 mm, ~35% medium to fine sand, and trace amounts of coarse sand. The sand and gravel is subangular to sub rounded. The fines have medium plasticity and toughness, are dark grayish brown (2.5 Y 4/2), and have a strong reaction to HCl. WELL-GRADED SAND with GRAVEL (56-57 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~15% gravel to ~30]mm, $\sim 15\%$ fine sand, and $\sim 5\%$ silt and clay. The sand is subangular to subrounded and the gravel is angular to subangular. The fines are nonplastic, brown, and have a strong reaction to HCl.

SILTY SAND (57-58.5 feet) Dry, dense, no odor. Primarily coarse to medium sand with $\sim 10\%$ gravel to ~ 25 BRN&CALD.GDT 1/31/06 mm and ~15% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The fines are 4420 SM nonplastic, brown, and have a strong reaction to HCl. SILTY SAND (58.5-62.5 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~25 mm and ~15% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The fines are nonplastic, brown, and have a strong reaction to HCl. SONIC METHOD LOG YERINGTON.GPJ

BORING LOG

B/W-7 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 <u>6</u> of <u>18</u> \mathbf{X} Monitoring Well Sheet Soil Boring Project Number: JSCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SC CLAYEY SAND (62.5-63 feet) Dry, dense, no odor. Primarily medium to fine sand with trace amounts of gravel to ~20 mm, and ~40% silt and clay. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HC 4415 SILTY SAND (63-64 feet) Dry, dense, no odor. Primarily medium to fine sand with trace amounts of gravel to ~10 mm and ~45% silt and clay. The sand and gravel is angular to subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl SILTY SAND (64-65 feet) 65 Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to ~10 mm, ~15% coarse sand, and ~15% silt and clay. The sand and gravel is subangular. The fines are nonplastic, brown, and have a strong reaction to HCl. WELL-GRADED SAND with SILT (65-66 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~6 mm, ~15% fine sand, and ~10% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and have a strong reaction to HCl. SILTY SAND (66-67.5 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~30 mm, $\sim 15\%$ fine sand, and $\sim 15\%$ silt and clay. The sand is subangular to subrounded and the gravel is subangular. The fines are nonplastic, light brown, and have a strong reaction to HCl. SILTY SAND (67.5-69 feet) Dry, dense, no odor. 4410 Primarily coarse to medium sand with ~10% gravel to ~25 mm and ~20% silt and clay. The sand is subangular to subrounded and the gravel is angular to subangular. The SM fines are nonplastic, brown, and have a strong reaction to SILTY SAND with GRAVEL (69-71.5 feet) Dry, dense, no odor. 70 Primarily coarse to medium sand with ~15% gravel to ~40 mm and ~15% silt and clay. The sand is subangular to subrounded and the gravel is angular to subangular. The fines are nonplastic, brown, and have a weak reaction to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 SM SILTY SAND (71.5-72 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~5% gravel to ~20 mm, ~20% fine sand, and ~15% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The fines are nonplastic, brown, and have a strong reaction to SANDY LEAN CLAY (72-73 feet) Dry, hard, no odor. Primarily silt and clay with trace amounts of gravel to ~15 mm, ~45% medium to fine sand, and ~5% coarse sand. The 4405 sand and gravel is angular to subangular. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and have a strong reaction to HCl. **SANDY LEAN CLAY** (73-74.5 feet) Dry, hard, no odor. Primarily silt and clay with trace amounts of gravel to ~6 mm, and ~30% medium to fine sand. The sand is subangular to sub rounded and gravel is subangular. The fines have medium plasticity and toughness, are very dark grayish brown (2.5 Y 3/2), and have a strong reaction to HCl

BORING LOG

B/W-7 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 7 of 18 \mathbf{X} Soil Boring Monitoring Well Sheet Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well WELL-GRADED SAND with SILT (74.5-75.5 feet) SM Dry, dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~20 mm and ~10% silt and clay. The sand is subangular to subrounded and the gravel is angular to subangular. The fines are nonplastic, brown, and have a strong reaction to SW-HC SM **SILTY SAND** (75.5-76.5 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~20 mm and ~15% silt and clay. The sand and gravel is angular SM to subangular. The fines are nonplastic, brown, and have a strong reaction to HCl. WELL-GRADED SAND with SILT (76.5-75.5 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~20 mm and ~10% silt and clay. The sand is subangular to 4400 subrounded and the gravel is angular to subangular. The fines are nonplastic, brown, and have a strong reaction to SILTY SAND with GRAVEL (75.5-82 feet) Dry, dense, no odor. Primarily medium to fine sand with ~20% gravel to ~15 mm, ~15% coarse sand, and ~15% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, 80 brown, and have a strong reaction to HCl. SANDY LEAN CLAY (82-83 feet) CL Dry, hard, no odor. Primarily silt and clay with trace amounts of gravel to ~6 mm, and ~30% medium to fine sand. The sand is subangular to sub rounded and gravel is subangular. The fines have medium plasticity and toughness, are very dark grayish SM brown (2.5 Y 3/2), and have a strong reaction to HCl SILTY SAND with GRAVEL (83-88.5 feet) Dry, dense, no odor. 4395 Primarily coarse to medium sand with ~15% gravel to ~15 mm and ~15% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have a strong reaction to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 85

BORING LOG

B/W-7 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 8 of 18 Monitoring Well Sheet Soil Boring Project Number: ISCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 4390 CL **SANDY LEAN CLAY** (88.5-89.75 feet) Dry, hard, no odor. Primarily silt and clay with trace amounts of gravel to ~15 mm, ~50% medium to fine sand, and trace amounts of coarse sand. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, (10YR 4/4) dark yellowish brown, and have a strong reaction to HCL <u>SILTY SAND with GRAVEL</u> (89.75-91 feet) 90 Dry, dense, no odor. Primarily coarse to medium sand with ~20% gravel to ~25 mm and ~15% silt and clay. The sand is subangular to subrounded and the gravel is angular to subangular. The fines are nonplastic, brown, and have a weak reaction to HCl. SANDY LEAN CLAY (91-92 feet) CL Dry, hard, no odor. Primarily silt and clay with trace amounts of gravel to ~6 mm, and ~30% medium to fine sand. The sand is subangular to sub rounded and gravel is subangular. The fines have medium plasticity and toughness, are very dark grayish brown (2.5 Y 3/2), and have a strong reaction to HCl SILTY SAND (92-94.5 feet) Dry, dense, no odor. Primarily coarse to medium sand with $\sim 10\%$ gravel to ~ 25 mm, $\sim 15\%$ fine sand, and $\sim 15\%$ silt and clay. The sand is subangular to subrounded and the gravel is subangular. The fines are nonplastic, brown, and have a strong reaction to HC1. 4385 SANDY LEAN CLAY (94.5-95 feet) Dry, very hard, no odor. Primarily silt and clay with ~45% medium to fine sand to ~2 95 mm. The sand is subangular to sub-rounded. The fines have medium plasticity and toughness, (10YR 4/3) brown, and have a weak reaction to HCl. SILTY SAND (95-95.5 feet) CL Dry, very dense, no odor. CL Primarily coarse to medium sand with ~10% gravel to ~15 mm, $\sim 15\%$ fine sand, and $\sim 15\%$ silt and clay. The sand is subangular to subrounded and the gravel is angular to subangular. The fines are nonplastic, brown, and have a SM weak reaction to HCl.
SANDY LEAN CLAY (95.5-96 feet) Dry, very hard, no odor. Primarily silt and clay with ~5% gravel to ~20 mm, ~40% medium to fine sand, and ~5% coarse sand. The sand and YERINGTON.GPJ BRN&CALD.GDT 1/31/06 gravel is angular to subangular. The fines have medium plasticity and toughness, (7.5YR 5/3) brown, and have a strong reaction to HCl. SANDY LEAN CLAY (96-96.75 feet) Dry, hard, no odor. 4380 Primarily silt and clay with trace amounts of gravel to ~6 mm, and ~30% medium to fine sand. The sand is subangular to sub rounded and gravel is subangular. The fines have medium plasticity and toughness, are very dark grayish brown (2.5 Y 3/2), and have a strong reaction to HCL SILTY SAND (96.75-99.5 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~50 mm and ~20% silt and clay. The sand is subangular to SONIC METHOD LOG subrounded and the gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl **SILTY SAND** (99.5-101 feet) Dry, very dense, no odor. Primarily coarse to medium sand with trace amounts of gravel to ~15 mm, ~15% fine sand, and ~20% silt and clay. The sand is subangular to subrounded and the gravel is

BORING LOG

B/W-7 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 18 Monitoring Well Sheet of Soil Boring Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SWsubangular. The fines are nonplastic, brown, and have a SM weak reaction to HCl. SANDY LEAN CLAY (101-101.5 feet) Dry, very hard, no odor. Primarily silt and clay with ~10% coarse sand to ~4.5 mm, and ~35% medium to fine sand. The sand is subangular to sub rounded. The fines have medium plasticity and toughness, are dark grayish brown (2.5 Y 4/2), and have a weak reaction to HCL WELL-GRADED SAND with SILT (101.5-103.5 feet) Dry, very dense, no odor. 4375 CL Primarily medium to fine sand with ~10% gravel to ~15 mm, ~15% coarse sand, and ~10% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The fines are nonplastic, brown, and have a strong reaction to GRAVELLY LEAN CLAY with SAND (103.5-104 feet) CL Dry, very hard, no odor. Primarily silt and clay with ~30% gravel to ~20 mm, and 105 ~20% coarse to fine sand. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and have a strong reaction SM to HCl. WELL-GRADED SAND with SILT (104-104.5 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to ~15 mm, ~15% coarse sand, and ~10% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The fines are nonplastic, brown, and have a strong reaction to SANDY LEAN CLAY (104.5-105 feet) Dry, very hard, no odor. Primarily silt and clay with ~5% gravel to ~12 mm, ~40% medium to fine sand, and ~5% coarse sand. The sand and gravel is angular to subangular. The fines have medium CL plasticity and toughness, are yellowish brown (10YR 5/4), and have a strong reaction to HCl. SANDY LEAN CLAY (105-105.5 feet) 4370 Dry, very hard, no odor. Primarily silt and clay with ~35% medium to fine sand to ~1.5 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are dark grayish brown (2.5Y 4/2), and have a strong reaction to HCl. **WELL-GRADED SAND with SILT** (105.5-108 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to ~15 mm, 110 ~15% coarse sand, and ~10% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The fines are nonplastic, brown, and have a strong reaction to SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 HC1 SANDY LEAN CLAY (108-110 feet) Dry, very hard, no odor. Primarily silt and clay with trace amounts of gravel to ~12 mm, and ~35% medium to fine sand. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and have a strong reaction to HCl. SANDY LEAN CLAY (110-110.75 feet) Dry, very hard, no odor. Primarily silt and clay with trace amounts of coarse sand to ~5 mm, and ~35% medium to fine sand. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, (10YR 5/2) grayish brown, and have a strong reaction to HCl. SANDY LEAN CLAY (110-110.75 feet) 4365 Dry, very hard, no odor. Primarily silt and clay with trace amounts of coarse sand to 5 mm, and ~35% medium to fine sand. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, (10YR 5/2) grayish brown, and have a strong

BORING LOG

B/W-7 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>10</u> of <u>18</u> Monitoring Well Soil Boring Project Number: SCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well reaction to HCl. SILTY SAND with GRAVEL (111.25-112.5 feet) 115 Dry, dense, no odor. Primarily coarse to medium sand with ~20% gravel to ~20 mm and ~15% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have a strong reaction to HCl CLAYEY SAND with GRAVEL (112.5-114 feet) Dry, very dense, no odor. SM Primarily coarse to medium sand with ~30% gravel to ~20 mm and ~30% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. SANDY LEAN CLAY (114-116.25 feet) Dry, very hard, no odor. Primarily silt and clay with trace amounts of coarse sand to 5 mm, and ~35% medium to fine sand. The sand subangular to subrounded. The fines have medium plasticity and toughness, are dark grayish brown (10YR 4/2), and have a strong reaction to HCl.

SILTY SAND with GRAVEL (112.5-114 feet) 4360 Dry, very dense, no odor. Primarily coarse to medium sand with ~15% gravel to ~20 mm and ~25% silt and clay. The sand and gravel is angular to subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl. <u>CLAYEY SAND</u> (118.25-121 feet) Dry, very dense, no odor. 120 Primarily medium to fine sand with ~5% gravel to ~15 mm and ~40% silt and clay. The sand subangular to subrounded and the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. SANDY LEAN CLAY (121-122.75 feet) Dry, very hard, no odor. Primarily silt and clay with ~35% medium to fine sand to ~1.5 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are grayish brown (2.5Y 5/2), and have a strong reaction to HCl. SANDY LEAN CLAY (122.75-124.5 feet) Dry, very hard, no odor. Primarily silt and clay with trace amounts of gravel to 7mm, ~45% medium to fine sand, and ~5% coarse sand. The sand 4355 is subangular to subrounded and the gravel is subangular. BRN&CALD.GDT 1/31/06 The fines have medium plasticity and toughness, are olive brown (2.5Y 4/3), and have a very strong reaction to HCl. **CLAYEY SAND** (124.5-126 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~5% gravel to ~20 mm 125 and ~25% silt and clay. The sand and gravel is angular to SONIC METHOD LOG YERINGTON.GPJ subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. **SILTY SAND** (126-129 feet) Dry, very dense, no odor. Primarily coarse to medium sand with ~5% gravel to ~15 mm and ~15% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have a weak reaction to HCl.

BORING LOG

Proje	ct Nan	ne:	Yerington Groundwater Investigation			v	Vell Nun	nber:	B/W-7	
Soil	Soil Boring Monitoring Well No Project Number:								43.021	Sheet <u>11</u> of <u>18</u>
Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	-	Sample No.	Sample	Lithology Lithology	Well		Remarks
- - - 130-	4350	CL	SANDY LEAN CLAY (129-131 feet) Dry, very hard, no odor. Primarily silt and clay with ~35% medium to fine sand to ~2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are olive brown (2.5Y 4/3), and have a strong reaction to HCl.	-						
-		SM	SILTY SAND (131-131.75 feet) Dry, very dense, no odor. Primarily medium to fine sand with trace amounts of gravel to ~10 mm, ~15% coarse sand, and ~20% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl. SILTY SAND (131.75-133.5 feet) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to ~25 mm and ~20% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The fines are nonplastic, reddish brown, and have a strong reaction to HCl.	-						
135 —	4345	CL	SANDY LEAN CLAY (133.5-134.5 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~30% medium to fine sand to ~1.5 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are dark grayish brown (10YR 4/2), and have a strong reaction to HCl. SANDY LEAN CLAY (134.5-137 feet) Dry, very hard, no odor. Primarily silt and clay with ~5% gravel to ~15 mm, ~40% medium to fine sand, and ~5% coarse sand. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, are brown (10YR 5/3), and have a strong reaction to HCl.	-						
SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06	4340	SM	SANDY LEAN CLAY (137-138 feet) Dry, hard, no odor. Primarily silt and clay with ~30% medium to fine sand to ~2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are dark grayish brown (2.5Y 4/2), and have a strong reaction to HCl. SILTY SAND (138-139.5 feet) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to ~10 mm and ~15% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have a strong reaction to HCl. CLAYEY SAND with GRAVEL (139.5-142.5 feet)							
SONIC METHOD			Dry to moist, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 18mm and ~40% silt and clay. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl.	-						

BORING LOG

B/W-7 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>12</u> of <u>18</u> Monitoring Well Soil Boring Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well **SANDY SILT** (142.5-143 feet) Dry to moist, very hard, no odor. Primarily silt and clay with ~5% gravel to ~10 mm, and ~35% medium to fine sand. The sand and gravel is angular to subangular. The fines have low plasticity and low toughness, are brown (10YR 5/3), and have a strong reaction to HCl.

SANDY LEAN CLAY

Ory, hard, no odor. 4335 Primarily silt and clay with ~35% medium to fine sand to ~2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are dark grayish brown (2.5Y 4/2), and have a strong reaction to HCl. **SILTY SAND** (144.75-146.75 feet) 145 Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to ~10 mm and ~35% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl. SANDY LEAN CLAY (146.75-148 feet) CL Dry, very hard, no odor. Primarily silt and clay with trace amounts of gravel to ~15 mm, ~45% medium to fine sand, and ~5% coarse sand. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, are brown (10YR 5/3), and have a strong reaction to HCl. CL SANDY LEAN CLAY (148-149.5 feet) Dry, hard, no odor. Primarily silt and clay with ~35% medium to fine sand to ~2 4330 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are dark grayish brown (2.5Y 4/2), and have a strong reaction to HCl. **SILTY SAND** (149.5-150 feet) SM Dry, very dense, no odor. 1/31/06 Primarily medium to fine sand with ~5% gravel to ~10 mm .50 and ~20% silt and clay. The sand and gravel is angular to SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT subangular. The fines are nonplastic, brown, and have a strong reaction to HCl. CLAYEY SAND with GRAVEL (150-152 feet) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~15% gravel to ~15 mm and ~25% silt and clay. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. CL SANDY LEAN CLAY (152-155 feet) Dry to moist, very hard, no odor. Primarily silt and clay with \sim 5% gravel to \sim 15 mm, \sim 40% medium to fine sand, and \sim 5% coarse sand. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, are brown (10YR 5/3), and have a strong reaction to HCl.

BORING LOG

B/W-7 **Yerington Groundwater Investigation** Project Name: Well Number: 121243.021 Sheet <u>13</u> of <u>18</u> ${f X}$ Soil Boring Monitoring Well Project Number: ISCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 155 **CLAYEY SAND** (155-161.5 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to ~25 mm, and ~30% silt and clay. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. 4320 160 **SILTY SAND** (161.5-163 feet) Moist, very dense, no odor. Primarily medium to fine sand with trace amounts of gravel to ~12 mm, and ~20% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have a strong reaction to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 SANDY LEAN CLAY (163-163.5 feet) CL Moist, very hard, no odor. Primarily silt and clay with ~5% gravel to ~20 mm, ~40% 4315 SM medium to fine sand, and ~5% coarse sand. The sand is subangular to subrounded and the gravel is subangular. The fines have medium plasticity and toughness, are dark grayish brown (2.5Y 4/2), and have a strong reaction to HCl. SILTY SAND with GRAVEL (163.5-166.5 feet) Moist, dense, no odor. Primarily medium to fine sand with ~15% gravel to ~15 mm and ~15% silt and clay. The sand and gravel is angular to 65 subangular. The fines are nonplastic, brown, and have a strong reaction to HCl. SILTY SAND with GRAVEL (166.5-167 feet) Dry to moist, very dense, no odor.

BORING LOG

B/W-7 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>14</u> of <u>18</u> \mathbf{X} Soil Boring Monitoring Well Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily coarse to medium sand with ~20% gravel to ~20 mm and ~15% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have a strong reaction to HCl CLAYEYE SAND (167-169 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to ~20 mm and ~20% silt and clay. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, 4310 are brown, and have a strong reaction to HCl. SC CLAYEY SAND (169-175 feet) Dry to moist from 169-174 feet, moist from 174-175 feet, dense, no odor. Primarily medium to fine sand with ~10% gravel to ~20 mm, and ~40% silt and clay. The sand and gravel is angular to 170 subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. 4305 175 SILTY SAND with GRAVEL (175-175.25 feet) Dry to moist, dense, no odor. Primarily coarse to medium sand with ~15% gravel to ~30 mm and ~15% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have a SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 strong reaction to HCl SILTY SAND with GRAVEL (175.25-176.5 feet) Dry to moist, dense, no odor. CL Primarily medium to fine sand with ~20% gravel to ~20 mm and ~35% silt and clay. The sand and gravel is angular to subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl.

SANDY LEAN CLAY (176.5-177 feet) Dry to moist, very hard, no odor. Primarily silt and clay with trace amounts of gravel to ~15 mm, ~50% medium to fine sand, and trace amounts of coarse sand. The sand is subangular to sub rounded and gravel is subangular. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and have a weak reaction to 4300 HCI SILTY SAND (177-179 feet) Dry to moist, very dense, no odor. Primarily medium to fine sand with trace amounts of gravel to ~10 mm, and ~40% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The fines have low plasticity and toughness, are brown, and have a weak reaction to HCl

BORING LOG

B/W-7 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>15</u> of <u>18</u> \mathbf{X} Monitoring Well Soil Boring Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SM SILTY SAND with GRAVEL (179-180 feet) Moist, dense, no odor. ML Primarily medium to fine sand with ~30% gravel to ~30 mm, ~20% coarse sand, and ~25% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl **SILTY SAND** (180-180.25 feet) Moist to saturated, medium dense, no odor. Primarily medium to fine sand with ~10% gravel to ~10 mm and ~20% silt and clay. The sand and gravel is angular to subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCL **SANDY SILT** (180.25-184.5 feet) Dry to moist, very hard, no odor. Primarily silt and clay with ~10% gravel to ~20 mm, ~25% medium to fine sand, and ~5% coarse sand. The sand and gravel is angular to subangular. The fines have low plasticity and low toughness, are yellowish brown (10YR 5/4), and 4295 have a strong reaction to HCl. SANDY LEAN CLAY (184.5-185 feet) CL Moist, very hard, no odor. Primarily silt and clay with trace amounts of gravel to ~10 185 mm, ~35% medium to fine sand, and ~15% coarse sand. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. SILTY SAND with GRAVEL (191-192 feet) Moist, very dense, no odor. Primarily medium to fine sand with ~20% gravel to ~25 mm and ~35% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl. 4290 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 190 SILTY SAND with GRAVEL (191-192 feet) SM Moist, very dense, no odor. Primarily medium to fine sand with ~20% gravel to ~25 mm and ~35% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The fines have low plasticity and toughness, are brown, and have a strong SC reaction to HCl. CLAYEY SAND with GRAVEL (192-195 feet) Moist, very dense, no odor. Primarily medium to fine sand with $\sim\!20\%$ gravel to $\sim\!25$ mm and ~30% silt and clay. The sand is subangular to

BORING LOG

B/W-7 **Yerington Groundwater Investigation** Project Name: Well Number: 121243.021 Sheet <u>16</u> of <u>18</u> ${f X}$ Monitoring Well Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well subrounded and the gravel is subangular. The fines have medium plasticity and toughness, are light brown, and have a strong reaction to HCl. 4285 195 SANDY LEAN CLAY (195-195.5 feet) Dry to moist, very hard, no odor. Primarily silt and clay with ~10% gravel to ~15 mm, ~15% medium to fine sand, and ~15% coarse sand. The sand is subangular to subrounded and the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl CLAYEY SAND with GRAVEL (195.5-204 feet)
Dry to moist, very dense, no odor.
Primarily medium to fine sand with ~20% gravel to ~60 mm, and ~40% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. 4280 200 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 4275 CLAYEY SAND (204-205feet) Dry to moist, dense, no odor. Primarily medium to fine sand with trace amounts of coarse sand to ~4 mm, and ~20% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The 205 fines have medium plasticity and toughness, are brown, and have a strong reaction to HCL **SANDY SILT** (205-206.75 feet) Dry to moist, very hard, no odor. Primarily silt and clay with ~5% gravel to ~6 mm, ~25% medium to fine sand, and ~10% coarse sand. The sand is

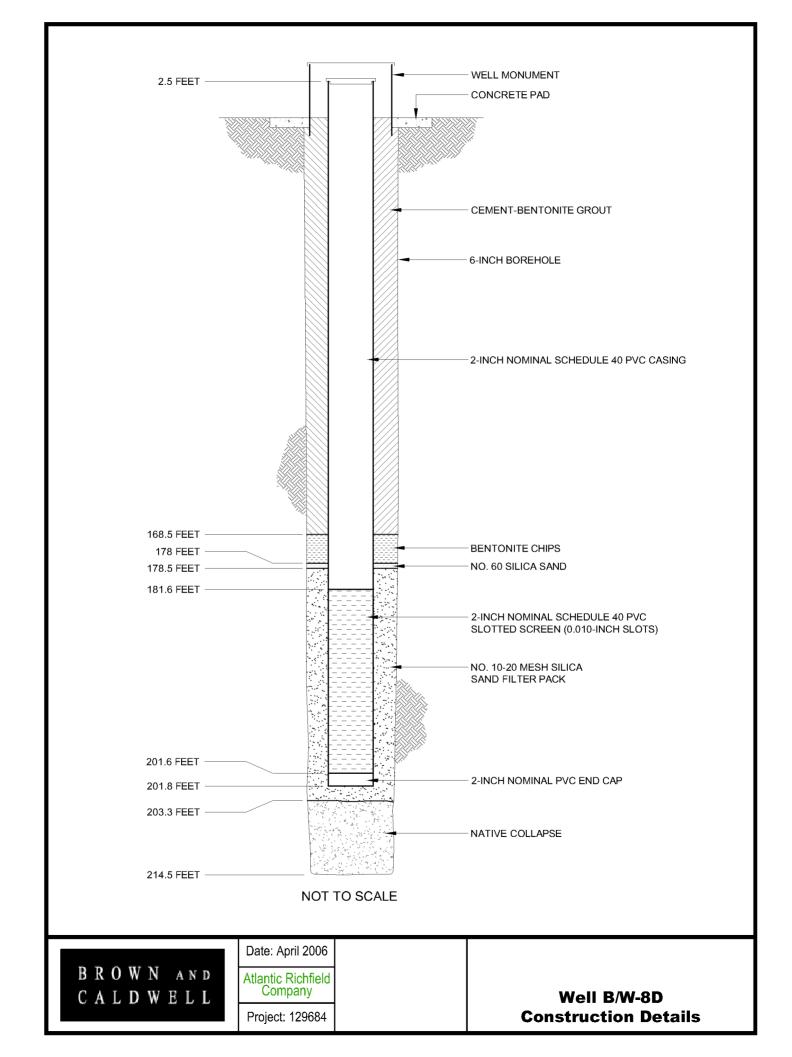
BORING LOG

B/W-7 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>17</u> of <u>18</u> \mathbf{X} Monitoring Well Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well subangular to subrounded and the gravel is subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl. CL **SANDY LEAN CLAY** (206.75-207.5 feet) Dry, very hard, no odor. Primarily silt and clay with ~50% medium to fine sand to ~2 mm. The sand is angular to subangular. The fines have medium plasticity and toughness, are brown (7.5YR 4/3), and have a strong reaction to HCl. CLAYEY SAND with GRAVEL (207.5-208.5 feet) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~15% gravel to ~40 mm, ~20% coarse sand, and ~40% silt and clay. The sand and 4270 CL gravel is subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. SANDY LEAN CLAY (208.5-208.75 feet) Dry, very hard, no odor. Primarily silt and clay with ~50% medium to fine sand to ~2 mm. The sand is angular to subangular. The fines have medium plasticity and toughness, are brown (7.5YR 4/3), and have a strong reaction to HCl.

SANDY LEAN CLAY (208.75-211 feet) 210 Dry-moist, very hard, no odor. Primarily silt and clay with ~5% gravel to ~20 mm, ~35% medium to fine sand, and ~10% coarse sand. The sand and gravel is angular to subangular. The fines have medium SC plasticity and toughness, are brown, and have a strong reaction to HCl CLAYEY SAND with GRAVEL (211-214.5 feet) Dry to moist, dense, no odor. Primarily coarse to medium sand with ~20% gravel to ~50 mm and ~20% silt and clay. The sand is subrounded and the gravel is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. 4265 **SANDY LEAN CLAY** (214.5-217.25 feet) Dry to moist, very hard, no odor. Primarily silt and clay with ~5% gravel to ~10 mm, ~30% medium to fine sand, and ~5% coarse sand. The sand and SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 gravel is angular subangular. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and have a very strong reaction to HCl. **CLAYEY SAND** (217.5-218.75 feet) Dry, very dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~20 mm and ~30% silt and clay. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, are brown, and have no to a weak reaction to HCl. 4260 DECOMPOSED GRANITE (218.75-220.75 feet) Dry, very hard, no odor.

BORING LOG

B/W-7 **Yerington Groundwater Investigation** Project Name: Well Number: Monitoring Well 121243.021 Sheet <u>18</u> of <u>18</u> ${f X}$ Soil Boring Project Number: SCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily silt and clay with ~50% crystalline quartz. The fines have medium plasticity and toughness, are light gray (10YR 7/2), and have no reaction to HCl. 220 **DECOMPOSED GRANITE** (220.75-225.5 feet) Dry, very dense, no odor. Primarily crystalline quartz with ~45% silt and clay. The fines have medium plasticity and toughness, are light gray (10YR 7/2) with some reddish brown (2.5YR 4/4) seams, and have no reaction to HCl. 4255 225 **DECOMPOSED GRANITE and TUFF** (225.5-227.25 feet) Dry, very hard, no odor. Primarily silt and clay with ~40% decomposed bedrock with ~25% weathered granite material and ~75% weathered tuff material. The fines have medium plasticity and toughness, are mottled [black (5Y 2.5/1), greenish gray (GLEY1 5/1), and red (10R 5/6)], and have no reaction to HCl. **DECOMPOSED TUFF** (227.25-230 feet) Dry, very hard, no odor. Primarily silt and clay with ~30% decomposed tuff, trace secondary quartz. The fines have medium plasticity and toughness, are greenish gray (GLEY1 5/1), and have no reaction to HCl. BRN&CALD.GDT 1/31/06 4250 SONIC METHOD LOG YERINGTON.GPJ



BORING LOG

B/W-8 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 <u>1</u> of <u>17</u> ${f X}$ Monitoring Well Soil Boring Project Number: Sheet 320292 East: Boring Location: North of mine tailings, west of residential area North: Elevation: 4465.8 feet amsl 1565005.7 Drilling Contractor: WDC Driller: **D. Tonnancour** Date Started: **8/15/05** Date Finished: 8/21/05 Total Water Depth: Drilling Equipment: Gus Pech GP24-400RS, Diedrich Sonic Head 146.5' / 139.27' 214.5 Depth: (feet) (feet) Well Diameter Sampling Method: Core Barrel Borehole Diameter: 6" 2-inch PVC and Material: Screened Interval Drilling Method: Sonic, utilized 6" casing and a 4.5" core barrel 181.6-201.6 ft., bottom at 201.8 ft. and Well Depth: Slot Size: **0.020''** Filter Material: #10-20 Silica Sand Well Seal: Bentontite and Cement Logged By: C. Gardner Swabbed, bailed, pumped Development Method: Graphic Log SCS Group Symbo Elevation (feet) Depth (feet) Sample No Lithology Sample Description Remarks Well SILTY SAND with GRAVEL (0-1 feet) Descriptions of drilled cuttings based Dry, loose, no odor. on ASTM Method D-2488 (the visual-manual procedure), grain-size Primarily medium to fine sand with ~20% gravel to 50 mm and ~15% silt and clay. The sand is angular to subrounded, determinations and nomenclature 4465 the gravel is angular to subangular. The fines are nonplastic, based on the Unified Soil Classification \are brown, and have a strong to no reaction to HCl System. Munsell colors described wet. WELL-GRADED SAND with SILT and GRAVEL (1-5.5 SM feet) Dry, loose, no odor. Horizontal survey data is expressed in the Nevada State Plane system, Primarily coarse to medium sand with ~30% gravel to 35 mm and ~10% silt and clay. The sand is subangular to Nevada West zone, in feet. subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. Sharp contacts indicated by solid lines, gradational contacts indicated by dashed line. All depths are below land surface unless stated otherwise. 5 WELL DESIGN for B/W-8D: SM SILTY SAND (5.5-6.5 feet) Screened Interval: 181.6-201.6 feet. 4460 Dry, medium dense, no odor. Bottom of sump: 201.8 feet. Primarily medium to fine sand with ~5% fine gravel to 12 YERINGTON.GPJ BRN&CALD.GDT 1/31/06 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines Cement Grout: 0-168.5 feet. vare nonplastic, are brown, and have a strong reaction to HCl.

WELL-GRADED SAND with SILT and GRAVEL (6.5-8 feet) SW-Bentonite Chips: 168.5-178 feet. Filter Pack: #60 Sand 178-178.5 feet, #10-20 Sand 178.5-203.3 feet. Dry, medium dense, no odor. Bentonite Chips: 203.3-214.5 feet Primarily coarse to medium sand with ~20% gravel to 20 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. SILTY SAND with GRAVEL (8-11 feet) Depth to Water Measuring Point is Dry, medium dense, no odor. Top of PVC Casing. Primarily medium to fine sand with ~15% gravel to 25 mm Top of PVC Elevation: 4,468.33 feet and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines SONIC METHOD LOG PVC Stick-up: 2.5 feet above land are nonplastic, are brown, and have a strong reaction to HCl. surface.

BORING LOG

B/W-8 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 2 of 17 Monitoring Well Sheet Soil Boring Project Number: ISCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 4455 SM SILTY SAND with GRAVEL (11-12.5 feet) Dry, medium dense, no odor. Primarily coarse to medium sand with ~20% gravel to 30 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. SM SILTY SAND with GRAVEL (12.5-14.75 feet) Dry, medium dense, no odor. Primarily medium to fine sand with ~15% coarse sand, ~15% gravel to 20 mm, and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. SILTY SAND with GRAVEL (14.75-15.5 feet) 15 Dry, dense, no odor, Primarily medium to fine sand with ~15% gravel to 20 mm and ~15% silt and clay. The sand is angular to subrounded, the gravel is angular to subangular. The fines are nonplastic 4450 and are dark gray WELL-GRADED SAND with SILT (15.5-16.75 feet) Dry, dense, no odor. Primarily medium to fine sand with ~10% fine gravel to 15 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl WELL-GRADED SAND (16.75-18 feet) Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to 45 mm and ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. SILTY SAND (18-20 feet) Dry, dense, no odor. Primarily medium to fine sand with ~10% fine gravel to 15 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a weak to no reaction to SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 HCl. 20 SANDY LEAN CLAY (20-20.5 feet) Dry, very very hard, no odor. Primarily silt and clay with ~40% medium to fine sand and trace fine gravel to 8 mm. The sand is angular to <u>444</u>5 subrounded, the gravel is angular to subangular. The fines have medium plasticity and toughness, are very dark grayish brown (10YR 3/2), and do not react to HCl. WELL-GRADED GRAVEL with SILT and SAND (20.5-22.25 feet) Dry, very dense, no odor. Primarily gravel to 30 mm with ~35% coarse to medium sand and ~10% silt and clay. The sand is angular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. SILTY GRAVEL with SAND (22.25-24.5 feet) Dry, medium dense, no odor.

BORING LOG

B/W-8 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 3 of 17 \mathbf{X} Soil Boring Monitoring Well Sheet Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily gravel to 40 mm with ~35% coarse to medium sand and ~20% silt and clay. The sand is angular to subrounded, the gravel is angular to subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl. POORLY GRADED SAND (24.5-26 feet) Dry, medium dense, no odor. Primarily medium to fine sand to 2 mm with ~5% silt and 25 clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. 4440 SW WELL-GRADED SAND (26-27.75 feet) Dry, dense, no odor. Primarily medium to fine sand with ~10% fine gravel to 15 mm and ~5% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and have a weak reaction to HCl. SC **CLAYEY SAND** (27.75-30.5 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~30% silt and clay. The sand is angular to subrounded, the gravel is angular to subangular. The fines have medium plasticity and toughness, are grayish brown, and have a strong reaction to HCl. 30 SILTY SAND with GRAVEL (30.5-33 feet) SM 4435 Dry, dense, no odor. Primarily coarse to medium sand with ~20% gravel to 20 mm and $\sim 15\%$ silt and clay. The sand is angular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 SM | SILTY SAND with GRAVEL (33-35 feet) Dry, dense, no odor. Primarily sand with ~20% gravel to 20 mm and ~25% silt and clay. The sand is angular to subrounded, the gravel is angular to subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl. 35 WELL-GRADED SAND with SILT and GRAVEL SM (35-36.5 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~15% gravel to 20 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines

BORING LOG

B/W-8 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 **4** of **17** Soil Boring Monitoring Well Sheet Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well are nonplastic, are brown, and have a strong reaction to HCl. SILTY SAND with GRAVEL (36.5-42.25 feet) Dry, dense, no odor. Primarily sand with ~20% gravel to 40 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl. 40 4425 SM | SILTY SAND (42.25-44 feet) Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to 25 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. SILTY SAND (44-45 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~10% fine gravel to 15 mm and ~20% silt and clay. The sand is angular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl.

SILTY SAND with GRAVEL (45-47 feet) 45 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Dry, dense, no odor. Primarily medium to fine sand with ~20% gravel to 30 mm 4420 and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. WELL-GRADED SAND with SILT and GRAVEL (47-48 feet) SW-SM Dry, dense, no odor. Primarily medium to coarse sand with ~15% fine gravel to 15 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and have SM a strong reaction to HCl. SILTY SAND (48-52 feet) Dry, very dense, no odor. Primarily coarse to fine sand with ~10% fine gravel to 20 mm and ~15% silt and clay. The sand is angular to subrounded, the gravel is angular to subangular. The fines are nonplastic

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B/W-8 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 5 of 17 \mathbf{X} Monitoring Well Soil Boring Sheet Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well are brown, and have a strong reaction to HCl. 50 4415 CLAYEY SAND with GRAVEL (52-54.5 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~15% fine gravel to 15 mm and ~30% silt and clay. The sand is angular to subrounded, the gravel is angular to subangular. The fines have medium plasticity and low toughness, are brown, and have a strong reaction to HCl. SILTY SAND with GRAVEL (54.5-55 feet) Dry, very dense, no odor. Primarily coarse to medium sand with ~20% gravel to 25 mm 55 and ~25% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl.

CLAYEY SAND with GRAVEL (55-55.25 feet) 4410 Dry, dense, no odor. Primarily coarse to fine sand with ~15% gravel to 20 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness are dark gray, and have a strong reaction to HCl. SILTY SAND with GRAVEL (55.25-55.5 feet) SW- Primarily coarse to medium sand with ~20% gravel to 30 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl WELL-GRADED SAND with GRAVEL (55.5-57 feet) SW-Dry, dense, no odor. SM Primarily coarse to medium sand with ~20% gravel to 50 mm SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 and ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. WELL-GRADED SAND with SILT (57-58 feet) Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to 30 mm and ~10% silt and clay. The sand is angular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and have a weak to strong reaction to HCl.

WELL-GRADED SAND with SILT (58-60.5 feet) Dry, dense, no odor. Primarily medium sand with ~10% gravel to 35 mm and ~10% silt and clay. The sand is angular to subrounded, the 4405 gravel is angular. The fines are nonplastic, are brown, and have a strong reaction to HCl WELL-GRADED SAND with SILT (60.5-61.5 feet) Dry, dense, no odor. Primarily medium sand with ~10% gravel to 20 mm and ~10% silt and clay. The sand is angular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl

BORING LOG

B/W-8 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 <u>6</u> of <u>17</u> \mathbf{X} Monitoring Well Sheet Soil Boring Project Number: SCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well CLAYEY SAND (61.5-62 feet) SM Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~40% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness. are brown, and have a strong reaction to HCl SILTY SAND (62-62.5 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~10% gravel to 20 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. CL **SILTY SAND** (62.5-64.5 feet) Dry, very dense, no odor. 65 Primarily medium to fine sand with ~10% gravel to 20 mm and ~25% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl.

SANDY LEAN CLAY (64.5-66 feet) 4400 Dry, very hard, no odor. Primarily silt and clay with ~35% medium to fine sand and ~5% gravel to 20 mm. The sand and gravel are angular to subangular. The fines have medium plasticity and low toughness, are brown (10YR 5/3), and have a strong reaction to HCl. SANDY LEAN CLAY (66-66.5 feet) Dry, very hard, no odor. CL Primarily silt and clay with ~30% sand and ~20% gravel to 60 mm. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, are brown (7.5YR 5/3), and have a strong reaction to HCl. **CLAYEY SAND with GRAVEL** (66.5-67.5 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~20% gravel to 30 mm and ~25% silt and clay. The sand and gravel are angular to SM subangular. The fines have medium plasticity and toughness are brown, and have a strong reaction to HCL SANDY LEAN CLAY (67.5-69 feet) Dry, very hard, no odor. Primarily silt and clay with ~30% medium to fine sand and ~10% gravel to 20 mm. The sand and gravel are angular to 70subangular. The fines have medium plasticity and toughness, are dark yellowish brown (10YR 4/4), and have a strong reaction to HCl. SILTY SAND (69-70 feet) 4395 Dry, very dense, no odor. Primarily medium to fine sand with ~10% fine gravel to 15 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 are dark gray, and have a strong reaction to HCl SILTY SAND with GRAVEL (70-71.5 feet) Dry, very dense, no odor. Primarily coarse to fine sand with ~20% gravel to 30 mm and -20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl.

CLAYEY SAND with GRAVEL (71.5-73 feet) SM Dry, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl SILTY SAND with GRAVEL (73-73.5 feet) Dry, very dense, no odor. Primarily coarse to fine sand with ~40% gravel to 20 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and have a strong reaction to HCl.

CLAYEY SAND (73.5-74 feet)

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B/W-8 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 7 of 17 Monitoring Well Soil Boring Sheet Project Number: SCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Dry, very dense, no odor. Primarily medium to fine sand with ~10% fine gravel to 10 4390 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCL SILTY SAND with GRAVEL (74-75 feet) SM Dry, very dense, no odor. Primarily sand with ~20% gravel to 40 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl WELL-GRADED SAND with SILT and GRAVEL (75-76.5 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~20% gravel to 20 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. SILTY SAND (76.5-78.5 feet) Dry, very dense, no odor. CL Primarily medium to fine sand with ~10% gravel to 30 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl. SANDY LEAN CLAY (78.5-79 feet) 80 Dry, very hard, no odor. Primarily silt and clay with ~35% medium to fine sand to 2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are yellowish brown 4385 (10YR 5/4), and do not react to HCl. SANDY LEAN CLAY (79-81.5 feet) Dry, very hard, no odor. Primarily silt and clay with ~35% medium to fine sand and ~10% gravel to 30 mm. The sand is angular to subangular. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. **SANDY LEAN CLAY** (81.5-82 feet) Dry, very hard, no odor. Primarily silt and clay with ~30% medium to fine sand and ~10% gravel to 20 mm. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, are pale brown (10YR 6/3), and do not react to HCl. SILTY SAND with GRAVEL (82-85.5 feet) Dry, very dense, no odor. Primarily sand with ~20% gravel to 30 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, are brown, and do not react to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 85 CL SANDY LEAN CLAY (85.5-88.5 feet) 4380 Dry, very hard, no odor. Primarily silt and clay with ~30% medium to fine sand and ~5% fine gravel to 15 mm. The sand is angular to subangular. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and do not react to HCl.

Project Name:			Yerington Groundwater Investigation	Well Numbe					
Soil B	oring		Monitoring Well X Project Number	Sheet8 _ of17					
Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Sample No.	Sample Lithology Well		Remarks		
90-	4375	SM SM	SANDY LEAN CLAY (88.5-89 feet) Dry, very hard, no odor. Primarily silt and clay with ~35% coarse to medium sand and ~5% gravel to 20 mm. The sand is angular to subangular. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and have a weak to no reaction to HCl. SILTY SAND (89-90.25 feet) Dry, very dense, no odor. Primarily coarse to medium sand with ~10% gravel to 25 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. SILTY SAND (90.25-92.25 feet) Dry, very dense, no odor. Primarily coarse to medium sand with ~20% fine sand, ~10% gravel to 20 mm and ~20% silt and clay. The sand and gravel are angular to subrounded. The fines are nonplastic, are yellowish brown, and do not react to HCl.						
-			WELL-GRADED SAND with SILT and GRAVEL (92.25-94.5 feet) Dry, very dense, no odor. Primarily coarse to medium sand with ~20% gravel to 25 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.						
95 —	4370	CL	SANDY LEAN CLAY (94.5-96.75 feet) Dry, very hard, no odor. Primarily silt and clay with ~35% coarse to medium sand and ~5% fine gravel to 15 mm. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and do not react to HCl.						
LD.GDT 1/31/06		SM	SILTY SAND (96.75-98.5 feet) Dry, very dense, no odor. Primarily coarse to medium sand with ~20% fine sand, ~10% gravel to 50 mm, and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are reddish brown, and do not react to HCl.						
SONIC METHOD LOG YERINGTON GPJ BRN&CALD.GDT 1/31/06	4365	SW- SM	WELL-GRADED SAND with SILT and GRAVEL (98.5-99.5 feet) Dry, very dense, no odor. Primarily coarse to medium sand with ~20% gravel to 20 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are yellowish brown, and do not react to HCl. SANDY LEAN CLAY (99.5-101.5 feet) Dry, very dense, no odor. Primarily silt and clay with ~50% medium to fine sand with trace fine gravel to 15 mm. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, are light brown, and do not react to HCl.						

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B/W-8 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 of <u>1</u>7 \mathbf{X} Monitoring Well Soil Boring Sheet Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SW-WELL-GRADED SAND with SILT and GRAVEL SM (101.5-104 feet) Dry, very dense, no odor. Primarily coarse to medium sand with ~20% gravel to 20 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. SM | SILTY SAND with GRAVEL (104-104.5 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~20% gravel to 30 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not 105 react to HCl **SANDY LEAN CLAY** (104.5-106.5 feet) Dry, very hard, no odor. Primarily silt and clay with ~40% medium to fine sand and 4360 trace fine gravel to 6 mm. The sand and gravel are subangular. The fines have medium plasticity and toughness, are light olive brown (2.5Y 5/3), and do not react to HCl. SM SILTY SAND with GRAVEL (106.5-108.5 feet) Dry, very dense, no odor. Primarily coarse to medium sand with ~15% fine gravel to 15 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. **SANDY LEAN CLAY** (108.5-109.75 feet) Dry, very hard, no odor. Primarily silt and clay with ~40% medium to fine sand and trace fine gravel to 7 mm. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and do not react to HCl. GW- WELL-GRADED GRAVEL with SILT and SAND (109.75-111 feet) 110 Dry, very dense, no odor. Primarily gravel to 30 mm with ~25% medium to fine sand, ~15% coarse sand, and ~10% silt and clay. The sand and SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 4355 gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl CL SANDY LEAN CLAY (111-113 feet) Dry, very hard, no odor. Primarily silt and clay with ~20% medium to fine sand and ~5% fine gravel to 10 mm. The sand is subangular to subrounded, the gravel is angular to subangular. The fines have medium plasticity and toughness, are brown (7.5YR 5/4), and do not react to HCl. SILTY SAND with GRAVEL (113-114 feet) Dry, very dense, no odor. Primarily coarse to medium sand with ~20% gravel to 45 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are reddish brown, and do not react to HCl. WELL-GRADED SAND with SILT and GRAVEL (114-115 feet)

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B/W-8 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>10</u> of <u>17</u> Monitoring Well Soil Boring Project Number: SCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Dry, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 45 mm 115 and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl SILTY SAND with GRAVEL (115-115.75 feet) Dry, very dense, no odor. Primarily coarse to medium sand with ~20% gravel to 45 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are reddish brown, and do not react to HCl CL SILTY SAND with GRAVEL (155.75-116.5 feet) Dry, very dense, no odor. Primarily coarse to medium sand with ~15% fine sand, ~35% gravel to 60 mm, and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.

SANDY LEAN CLAY with GRAVEL (116.5-117 feet) Dry, very hard, no odor. Primarily silt and clay with ~25% coarse to medium sand and ~15% gravel to 20 mm. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. CLAYEY SAND with GRAVEL (117-119 feet) Dry, very dense, no odor. Primarily coarse to fine sand with ~20% gravel to 30 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness are brown, and do not react to HCl. 120 **SANDY LEAN CLAY** (119-119.75 feet) Dry, very hard, no odor. Primarily silt and clay with ~40% medium to fine sand and SM trace fine gravel to 15 mm. The sand and gravel are angular <u>4345</u> to subangular. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HC CLAYEY SAND with GRAVEL (119.75-120.5 feet) Dry, very dense, no odor. Primarily coarse to medium sand with ~15% fine sand, ~25% gravel to 40 mm, and ~25% silt and clay. The sand and gravel are angular to subangular. The fines have medium SM plasticity and toughness, are brown, and do not react to HCl. SILTY SAND with GRAVEL (120.5-122 feet) Dry, very dense, no odor. SM Primarily coarse to medium sand with ~25% gravel to 20 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl SILTY SAND with GRAVEL (122-122.5 feet) Dry, very dense, no odor. CL BRN&CALD.GDT 1/31/06 Primarily coarse to medium sand with ~20% gravel to 45 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl SILTY SAND with GRAVEL (122.5-123.5 feet) Dry, very dense, no odor. Primarily coarse to medium sand with ~25% gravel to 20 25 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do SONIC METHOD LOG YERINGTON.GPJ not react to HCl **SANDY LEAN CLAY** (123.5-126.5 feet) 4340 Dry, very hard, no odor. Primarily silt and clay with ~40% medium to fine sand and trace fine gravel to 15 mm. The sand and gravel are angular to subangular. The fines have medium plasticity and \text{\text{toughness, are brown (10YR 5/3), and do not react to HCl} \text{\text{WELL-GRADED SAND with SILT and GRAVEL}} \text{(126.5-127.75 feet)} Dry to moist, very dense, no odor. Primarily medium to fine sand with ~15% fine sand, ~30% gravel to 40 mm, and ~10% silt and clay. The sand and

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B/W-8 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>11</u> of <u>17</u> \mathbf{X} Monitoring Well Soil Boring Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. CL **SANDY LEAN CLAY** (127.75-129.75 feet) Dry to moist, very hard, no odor. Primarily silt and clay with ~40% medium to fine sand and trace fine gravel to 7 mm. The sand and gravel are subangular. The fines have medium plasticity and toughness, are strong brown (7.5YR 5/6), and do not react to HCl. SILTY SAND with GRAVEL (129.75-132.5 feet) 130 Dry, very dense, no odor. Primarily coarse to medium sand with ~15% gravel to 30 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not 4335 react to HCl. SANDY LEAN CLAY (132.5-134 feet) Dry, very hard, no odor. Primarily silt and clay with ~40% medium to fine sand and ~5% gravel to 30 mm. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. SW- WELL-GRADED SAND with SILT and GRAVEL (134-134.75 feet) Dry, very dense, no odor. Primarily coarse to medium sand with ~15% fine sand, ~25% fine gravel to 17 mm, and ~10% silt and clay. The sand and 135 gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. WELL-GRADED SAND with GRAVEL (134.75-135.25 SM feet) 4330 Dry, very dense, no odor. Primarily medium to fine sand with ~25% gravel to 28 mm and ~5% silt and clay. The sand and gravel are angular to SM subrounded. The fines are nonplastic, are brown, and do not react to HCl.
SILTY SAND with GRAVEL (135.25-135.5 feet) SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Dry, very dense, no odor. Primarily coarse to fine sand with ~20% gravel to 50 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is angular to subrouned. The fines are nonplastic, are brown, and do not react to HCl SILTY SAND with GRAVEL (135.5-136 feet) Dry, very dense, no odor. Primarily coarse to medium sand with ~20% gravel to 40 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subrounded. The fines are nonplastic, are brown, and do not react to HC WELL-GRADED SAND with SILT and GRAVEL (136-146.5 feet) Dry to moist, dense, no odor. Primarily coarse to medium sand with ~40% gravel to 55 mm and ~10% silt and clay. The sand and gravel are angular to subrounded. The fines are nonplastic, are brown, and do not 140 react to HCl.

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Well Number: B/W-8 **Yerington Groundwater Investigation** Project Name: \mathbf{X} 121243.021 Sheet <u>12</u> of <u>17</u> Monitoring Well Soil Boring Project Number: JSCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 145 4320 WELL-GRADED SAND with GRAVEL (146.5-150 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~20% gravel to 40 mm and ~5% silt and clay. The sand and gravel are angular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 150 SC CLAYEY SAND with GRAVEL (150-154.5 feet) Dry to moist, dense, no odor. Primarily coarse to medium sand with ~15% fne sand, ~15% gravel to 40 mm, and ~25% silt and clay. The sand and 4315 gravel are angular to subrounded. The fines have medium plasticity and toughness and do not react to HCl.

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B/W-8 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>13</u> of <u>17</u> Monitoring Well Soil Boring Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well GW- WELL-GRADED GRAVEL with SILT and SAND GM (154.5-156 feet) Moist to saturated, very dense, no odor. 155 Primarily gravel to 60 mm with ~30% coarse to medium sand and ~10% silt and clay. The sand and gravel are angular to subrounded. The fines are nonplastic, are brown, and do not 4310 react to HCl. SILTY SAND with GRAVEL (156-157.5 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~15% gravel to 20 mm and ~35% silt and clay. The sand nad gravel are angular to subrounded. The fines are nonplastic, are brown, and do not SM SILTY SAND with GRAVEL (157.5-159 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~20% gravel to 45 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. SANDY LEAN CLAY with GRAVEL (159-162.25 feet) CL Moist, very hard, no odor. Primarily silt and clay with ~30% coarse to fine sand and ~20% gravel to 40 mm. The sand and gravel are subangular to subrounded. The fines have medium plasticity and 160 toughness, are brown (10YR 5/3), and do not react to HCl. 4305 ML **SANDY SILT** (162.25-164 feet) Moist, very hard, no odor. Primarily silt and clay with ~40% sand and ~10% fine gravel to 15 mm. The sand is subangular to subrounded, the gravel SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 is angular to subrounded. The fines are nonplastic, are brown (10YR 5/3), and do not react to HCl. CLAYEY SAND with GRAVEL (164-166 feet) Moist, dense, no odor. Primarily coarse to medium sand with ~15% fine sand, ~20% gravel to 30 mm, and ~25% silt and clay. The sand and gravel are angular to subangular. The fines have medium 65 plasticity and toughness and do not react to HCl. 4300 WELL-GRADED SAND (166-168 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~10% fine gravel to 10 mm and ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are

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B/W-8 **Yerington Groundwater Investigation** Project Name: Well Number: 121243.021 Sheet <u>14</u> of <u>17</u> ${f X}$ Soil Boring Monitoring Well Project Number: ISCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well brown, and do not react to HCl. CL SANDY LEAN CLAY with GRAVEL (168-169 feet) Moist, hard, no odor. Primarily silt and clay with ~25% sand and ~25% gravel to 30 mm. The sand and gravel are angular to subangular. The (9) fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl.

CLAYEY SAND with GRAVEL (169-176 feet) B/W-8 SC Moist, dense, no odor. Primarily coarse to medium sand with ~20% fine sand, ~15% gravel to 50 mm, and ~25% silt and clay. The sand and gravel are angular to subangular. The fines have medium 170 plasticity and toughness, are brown, and do not react to HCl. 4295 175 4290 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 SM SILTY SAND with GRAVEL (176-179 feet) Moist to saturated, dense, no odor. Primarily coarse to medium sand with ~15% fine sand, ~35% gravel to 60 mm, and ~15% silt and clay. The sand is and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. **SILTY SAND** (179-184 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~25% fine sand, trace fine gravel to 15 mm, and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic,

BORING LOG

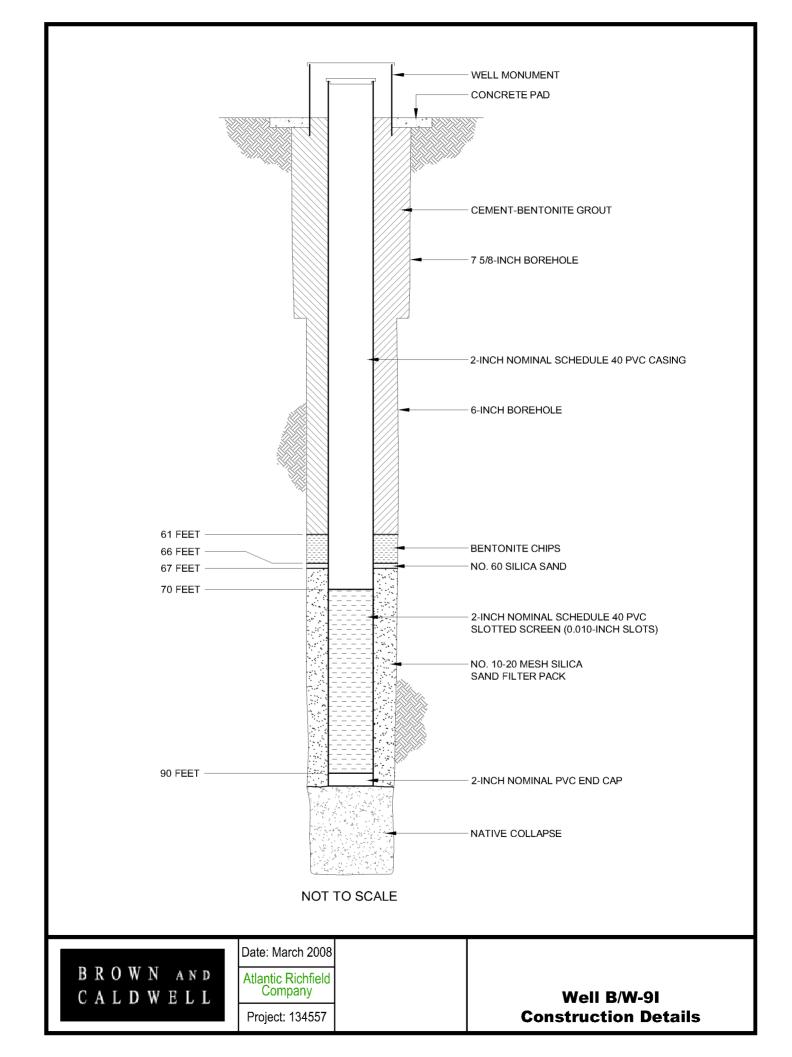
B/W-8 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>15</u> of <u>17</u> ${f X}$ Soil Boring Monitoring Well Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well are brown, and do not react to HCl. 4285 181 - 186 Ft (9) WELL-GRADED SAND with SILT and GRAVEL (184-185.5 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~15% fine sand, ~35% gravel to 42 mm, and ~10% silt and clay. The sand and 185 gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. **CLAYEY SAND** (185.5-187.25 feet) 4280 Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% fine gravel to 12 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines have medium plasticity and low toughness, are brown, and do not react to HCl. SM | SILTY SAND (187.25-188 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. SILTY SAND with GRAVEL (176-179 feet) Dry to moist, dense, no odor. Primarily coarse to medium sand with ~15% fine sand, ~35% gravel to 60 mm, and ~15% silt and clay. The sand and SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. WELL-GRADED SAND (189.5-190.5 feet) Saturated, medium dense, no odor. 190 Primarily medium to fine sand with ~5% fine gravel to 8 mm and ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular to subrounded,. The fines are nonplastic, are brown, and do not react to HCl. SILTY SAND with GRAVEL (190.5-194.25 feet) SM 4275 Saturated, dense, no odor. Primarily sand with $\sim\!20\%$ gravel to 40 mm and $\sim\!15\%$ silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.

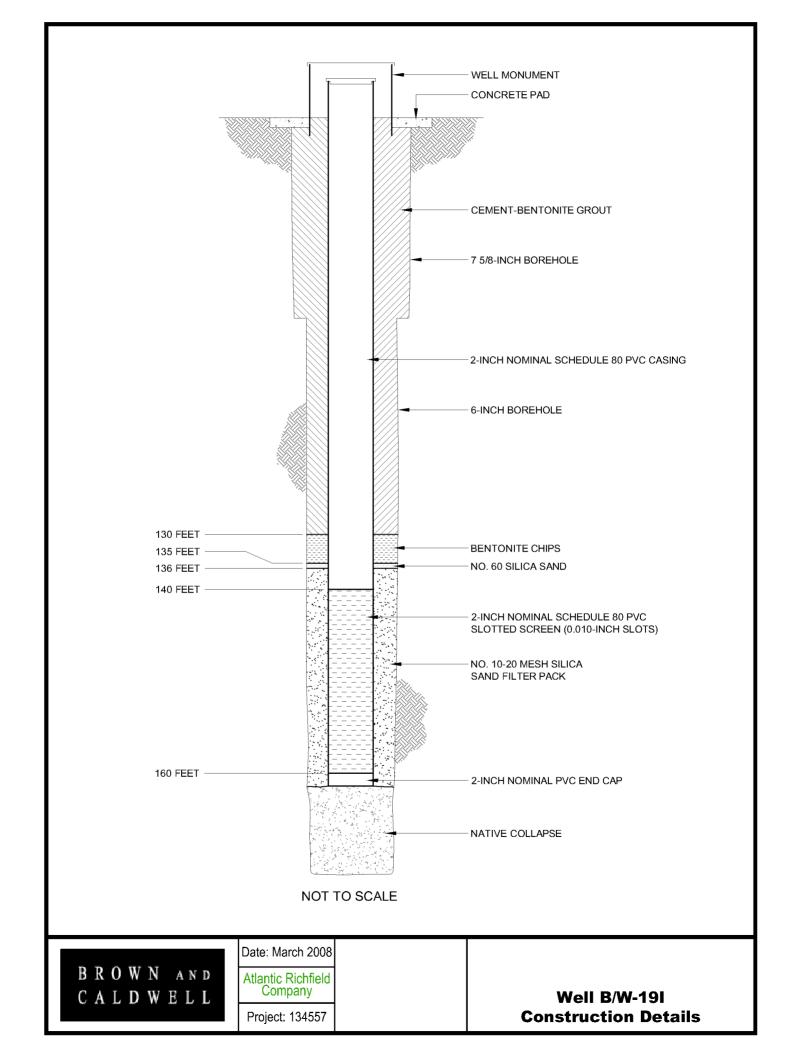
BORING LOG

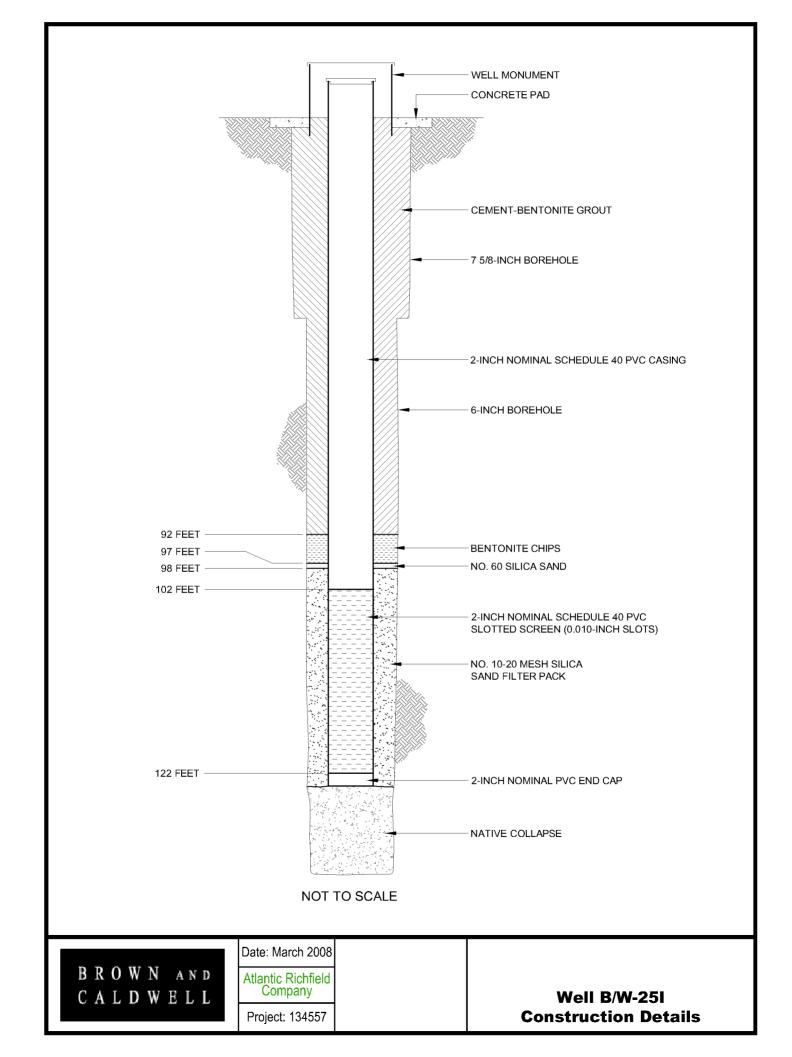
B/W-8 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>16</u> of <u>17</u> \mathbf{X} Monitoring Well Soil Boring Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SILTY SAND with GRAVEL (190.5-194.25 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with ~20% coarse sand, ~20% gravel to 25 mm, and ~15% silt and clay. The sand and 195 gravel are angular to subangular. The fines have low plasticity and toughness, are brown, and do not react to HCl. 4270 WELL-GRADED SAND with SILT (197-197.5 feet) Dry to moist, very dense, no odor. Primarily coarse to medium sand with ~20% fine sand, ~5% gravel to 35 mm, and ~10% silt and clay. The sand and gravel are subangular. The fines are nonplastic, are brown, 201 Ft. and do not react to HCl SANDY LEAN CLAY (197.5-198 feet) Dry to moist, very hard, no odor. 196. Primarily silt and clay with ~30% coarse to medium sand, (9) ~15% fine sand, and ~5% fine gravel to 15 mm. The sand B/W-8 and gravel are subangular. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and do not react to HCl. SILTY SAND (198-199.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm 200 and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subrounded. The fines have low plasticity and toughness, are brown, and do not react to HCl. 4265 **SILTY SAND** (199.5-201 feet) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~15% coarse sand, ~5% fine gravel to 10 mm, and ~20% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and do not react to HCl. **SANDY LEAN CLAY with GRAVEL** (201-204 feet) Dry to moist, very hard, no odor. YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Primarily silt and clay with ~30% sand and ~20% gravel to 50 mm. The sand and gravel are angular. The fines have medium plasticity and toughness and the upper 0.5 feet have a weak reaction to HCl, the lower 2.5 feet have a strong reaction to HCl. GW-GM (204-206.5 feet) WELL-GRADED GRAVEL with SILT and SAND Dry, very dense, no odor. Primarily gravel to 25 mm with ~30% coarse to medium sand and ~20% silt and clay. The sand and gravel are angular to SONIC METHOD LOG 205 subangular. The fines are nonplastic and have a strong reaction to HCl. The upper 1.25 feet are pinkish white (5YR 8/2), the lower 1.25 feet are pale red (10R 6/4). 4260

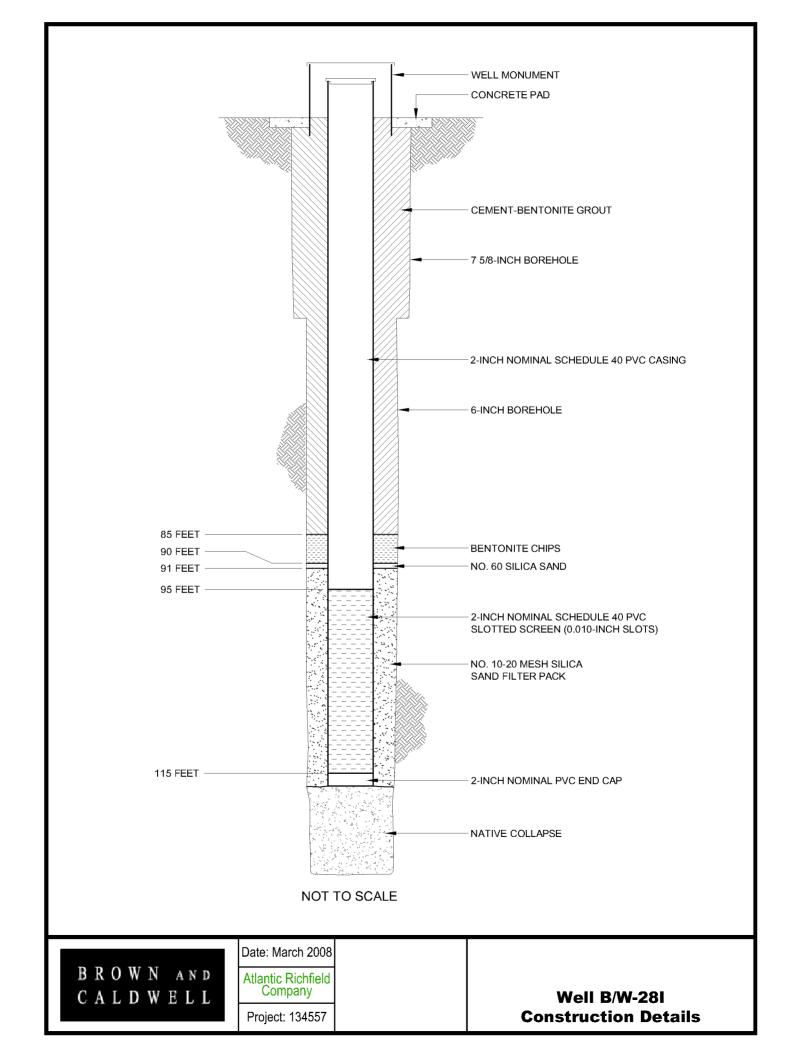
BORING LOG

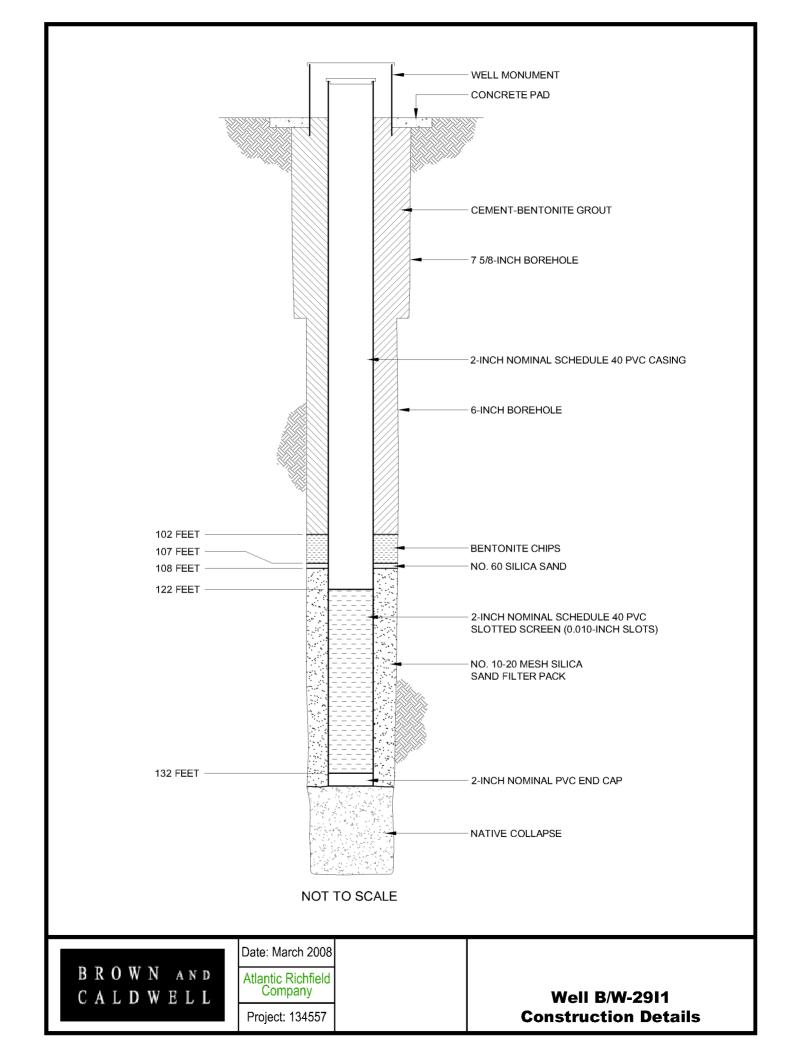
Well Number: B/W-8 **Yerington Groundwater Investigation** Project Name: \mathbf{X} 121243.021 Sheet <u>17</u> of <u>17</u> Monitoring Well Soil Boring Project Number: JSCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well **DECOMPOSED GRANITE** (206.5-213.5 feet) Dry, very dense, no odor. Fractured decomposed granite with ~15 to 25% secondary silt and clay. The fines have medium plasticity and toughness, have a strong reaction to HCl, and are light reddish brown (2.5YR 6/4) to reddish yellow (5YR 6/6) to pink (5YR 8/3). 210 4255 **DECOMPOSED GRANITE** (213.75-214.5 feet) Dry, very dense, no odor. Fractured decomposed granite with ~10% secondary silt and clay. The fines are nonplastic, have a strong reaction to HCl, and are pinkish white (7.5YR 8/2). SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06











Brown and Caldwell Carson City, Nevada BORING LOG

Project Name: PWS Characterization Project Number: 136739.003									136739.003				
Soil	Boring:	M	fonitoring Well: X Piezometer. Boring/We	II N	am	e: _L	EP-M\	N-4I	Sheet 1 of 5				
Bori	ng Loc	ation: On	Site, north of Pumpback Well System						Easting: 321659.7				
Drill	ing Co	ntractor:	Cascade Drilling Inc.			Top of PVC Elevation: 4355.1 feet amsl Ground Surface Elevation: 4353 feet amsl							
Drill	Drilling Equipment: CS 500 Sonic Drill Rig						arted:	2/28/09	Date Finished: 3/1/09				
Drill	ing Me	ethod: Sor	nic, utilized 4" core barrel			omple epth:		106 fbgs	Water Depth: 25.66 fbmp				
Sam	pling N	fethod:	NA Driller: R. LaBrosse Sr.						STRUCTION				
Well	Seal: 1	NA	Borehole Diameter: 6		Type and Diameter of Well Casing: 2-inch Schedule 40 PVC								
Logg	ged By:	C. Straus	Drilling Fluid: NA		S	Slot Size: 0.020 Filter Material: #3 Silica Sand							
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction		Remarks				
5-	4350—	_	No Recovery (0 - 6) No recovery due to vacuum truck removal.					ASTM Metho procedure), nomenclatur Classificatior Horizontal Si State Plane (Nevada with Processing S 2703), design the North An	urvey data is expressed in the Coordinate System (SPCS) for a Federal Information Standard code, 2703 (FIPS nated as Nevada State Plane in perican Datum of 1927 system D), West zone, and unit of				
-	4345—	SP	Poorly Graded Sand (6 - 9.5) Dry, loose to dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Clayey layer present from 7 - 7 foot 3 inches bgs.					Sharp contac gradational c line.	cts indicated by solid lines, contacts indicated by dashed e below land surface unless				
10-	4340	SC SW	Clayey Sand (9.5 - 10) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, have the 5YR 4/4 coloring, and do not react to HCI. Well Graded Sand (10 - 14) Dry, loose, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Iron staining bands found in sample. Clayey Sand (14 - 18) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, have the 2.5YR 4/6 coloring, and do not react to HCI. Very hard, has a lot of clay as well as silt. Poorly Graded Sand (18 - 21) Moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~10% silt and clay. The					PVC Stickup Cement - Be Bentonite Ch #3 Silica Sar 2-inch Nomir (0.020-inch)	GN for LEP-MW-4I: : 2.10 feet. ntonite Grout: 0 - 81 feet ips: 81 - 84 feet df Filter Pack: 84 - 106 feet nal Schedule 40 PVC Slotted Screen: 86 - 96 feet entonite Fill: NA feet				
]]		sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.										

Proj	ect Na	me: _ PW	S Characterization				Project Number:136739.003	
	Boring		fonitoring Well: X Piezometer: Boring/We	ell Na	ame	<u>LE</u>	P-MV	N-41 Sheet 2 of 5
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
-	4330	sc	Clayey Sand (21 - 26) Primarily medium to fine sand with ~10% gravel to 10 mm and ~25% silt and olay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, have the 5YR 4/3 coloring, and do not react to HCI.					
25-	-							
-	4325—	CL	Lean Clay with Sand (26 - 28) Moist, very dense, no odor. Primarily silt and clay with ~5% gravel to 5 mm and ~45% medium to fine grained sand. The sand and gravel are angular to subangular. The fines have high plasticity, have the 5YR 5/2 coloring, and do not react to HCI.					
30-	-	SP	Poorly Graded Sand (28 - 31) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~10-15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
		sc	Clayey Sand (31 - 32) Moist, very dense, no odor. Primarily medium to fine				88	
-	4320-	SW	sand with ~10% gravel to 10 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, have the 5YR 4/4 coloring, and do not react to HCI.	1				
35-	-		Well Graded Sand (32 - 40) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
-	-							
-	4315—							
40-	-	SM	Silty Sand (40 - 45.5) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
45-	4310-							

Project Name: PWS Characterization Project Number: 136/39.003									
Soil E	Boring	M	fonitoring Well: Piezometer: Boring/Well	ll Na	ame	: _L	EP-MV	V-41 Sheet 3 of 5	
Depth (fl)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks	
50-	4305	sc sw	Clayey Sand (45.5 - 46) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, have the 57R 4/4 coloring, and do not react to HCI. Well Graded Sand (46 - 49) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Clayey Sand (49 - 53) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, have the 5YR 4/4 coloring, and do not react to HCI.						
55-	4300	CL SC	Sandy Lean Clay (53 - 55.5) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines have low to medium plasticity and toughness, have the 5YR 4/3 coloring, and have no reaction to strong reaction to HCI. Gray clay nodules are inter-mixed in clay. Nodules have a very strong reaction to HCI. Clayey Sand (55.5 - 62) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.						
	4290— -	SW	Well Graded Sand (62 - 65) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 25 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.						
65-	4285	sc sc sc	Clayey Sand (65 - 66) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, have the 5YR 4/4 coloring, and do not react to HCI. Gray clasts with same characteristics as found in 53 - 55.5 ft bgs section. Clayey Sand (66 - 68) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, have the 5YR 4/4 coloring, and do not react to HCI. Clayey Sand (68 - 69.5)						
,,,,	1	344	Moist, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 30 mm and ~25% silt and clay.				X X		

Project Name: PWS Characterization Project Number: 136739.003									
Soil Boring	M	Ionitoring Well: X Piezometer: Boring/We	ell N	ame	: <u>L</u>	EP-MV	N-4 Sheet 4 of 5		
				_					
Depth (ft) Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks		
	CL	The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, and have the 5YR 4/4 coloring. Well Graded Sand (69.5 - 73.5) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl. Lean Clay (73.5 - 82) Moist, very dense, no odor. Primarily silt and clay with ~5% coarse sand to 2 mm and ~45% medium to fine grained sand. The sand is angular to subangular. The fines have high plasticity, have the 5YR 4/4 coloring, and do not react to HCl. Strong reaction on gray clasts. Well Graded Sand (82 - 92) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~5-10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.					LEP-MW-4I screened from 86 - 96 ft bgs		
-4260	SM	Silty Sand (92 - 94) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.							
95-	sc	Clayey Sand (94 - 98) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, have the 5YR 4/4 coloring, and have no reaction to strong reaction							

Proje	Project Name: PWS Characterization Project Number: 136/39.003										
Soil I	Boring	M	fonitoring Well: Piezometer: Boring/Well	ell Na	ame	e: <u>L</u>	EP-M\	V-41 Sheet _5 of _5			
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks			
-	-)	to HCI. Strong HCI reaction on gray clasts in this clayey sand.								
100-	4255—	CL	Sandy Lean Clay (98 - 104) Moist, very dense, no odor. Primarily silt and clay with ~10% gravel to 10 mm and ~40% medium to fine grained sand. The sand and gravel are subangular to subrounded. The fines have high properties of the 5YR 4/4 coloring, and have no reaction to a weak reaction to HCI. Gray Clasts have strong reaction to HCI.								
105-	4250	SC	Clayey Sand (104 - 106) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, have the 5YR 4/3 coloring, and have no reaction to a weak reaction to HCI. Bottom of Borehole at 106 feet below ground surface.								
110—	4245—										
-	- - 4240—										
115-	-										
-	4235—										
120-	- -										

Brown and Caldwell Carson City, Nevada

Proje	ect Na	me: PW	/S Characterization		_	Pr	oject Number:136739	9.003			
Soil F	Boring		fonitoring Well: Piezometer Boring/Well N	Van	ame: LEP-MW-8I Sheet 1 of 5						
Borin	ıg Loc	ation: On	Site, north of Pumpback Well System		Northing: 1556454.1 Easting: 324349.8						
Drilli	ng Co	ntractor:	Cascade Drilling Inc.	(Top of PVC Elevation: 4353.6 feet amsl Ground Surface Elevation: 4351.8 feet amsl						
Drilli	ng Eq	uipment:	CS 500 Sonic Drill Rig	_	Date Star			ished: 3/4/09			
Drilli	ng Me	ethod: Sor	nic, utilized 4" core barrel		Complete Depth:		Water Depth:	20.5 fbmp			
Samp	ling N	Aethod:	NA Driller: R. LaBrosse Sr.	L			WELL CONSTRUCTION	ON			
Well	Seal: 1	NA	Borehole Diameter: 6	(Type and Diameter of Well Casing: 2-inch Schedule 40 PVC						
Logg	ed By:	C. Straus	ss Drilling Fluid: NA	5	olot Size:	0.020	Filter Material: #	3 Silica Sand			
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Lithology	Well Construction	Remark	ş			
5-	4350—	SM	No Recovery (0 - 6) No recovery due to vacuum truck removal. Silty Sand (6 - 8) Dry, loose to dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~25% silt and clay.				Description of drilled or ASTM Method D-2488 procedure), grain-size nomenclature based or Classification System. Horizontal Survey data State Plane Coordinate Nevada with a Federal Processing Standard or 2703), designated as New North American Da (NAD27 GRID), West 2 measurement is feet. Sharp contacts indicate gradational contacts in	(the visual-manual determinations and in the Unified Soil is expressed in the e System (SPCS) for Information ode, 2703 (FIPS levada State Plane in litum of 1927 system zone, and unit of ed by solid lines,			
10-	- 4340		The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI. No Recovery (8 - 12)				All depths are below la stated otherwise. WELL DESIGN for LEF PVC Stickup: 1.80 fec Cement - Bentonite Gr Bentonite Chips: 75 - 7 #3 Silica Sand Filter Px	nd surface unless P-MW-8I: st. out: 0 - 75 feet 8 feet			
	-	CL	Sandy Lean Clay (12 - 13) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~35% silt and clay. The				2-inch Nominal Schedu (0.020-inch) Slotted Sc	ule 40 PVC creen: 80 - 90 feet			
		SP	sand and gravel are angular to subangular. The fines have low to high plasticity, and have a weak to strong reaction to HCI. Cemented sand at ~13 ft bgs with strong reaction to				Additional Bentonite Fi	II: 92 - 108 feet			
15-	-	SM	HCI. Poorty Graded Sand (13 - 14) Dry, loose, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.								
-	4335—	SW	Silty Sand (14 - 16) Moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, have the 5YR 4/4 coloring, and do not react to HCI.								
-	-	SM	Well Graded Sand (16 - 18.5) Moist, loose to dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The								
1 1	- 1		The state grant and second to successful.	- 1	1.1 L K	N 1/2					

Proj	Project Name: PWS Characterization Project Number: 136739.003										
Soil	Boring	; M	onitoring Well: Piezometer: Boring/Well Name:	:LEP-MW-8 Sheet2 of5							
		_									
Depth (ft)	Elevation (famsl)	MUSCS Group Symbol	Sample Name Sample Cocation	Well Construction Remarks							
		SM	fines are nonplastic, and do not react to HCI.								
	4330—	sc	Silty Sand (18.5 - 19.5) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, have the 5YR 4/4 coloring, and do not react to HCI.								
	-		Silty Sand (19.5 - 22) Moist, dense, no odor. Primarily medium to fine sand with ~ 10% gravel to 10 mm and ~ 15% silt and clay. The sand and gravel are subangular to subrounded. The fines								
25-	- -	SP	are nonplastic to low plasticity and toughness, have the 5YR 5/4 coloring, and do not react to HCl. Clayey Sand (22 - 24) Moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~20-25% silt and clay.								
	4325	sw	The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, have the 5YR 4/4 coloring, and do not react to HCl. Poorly Graded Sand (24 - 25.5)								
	-		Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.								
30-	-		Well Graded Sand (25.5 - 30) Saturated, loose to dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.								
	-	SC	Clayey Sand (30 - 31) Moist, dense, no odor. Primarily medium to fine sand								
	4320	CL	with ~10% gravel to 10 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, have the 5YR 4/4 coloring, and do not react to HCI. Lean Clay (31 - 44) Dry to moist, very dense, no odor. Primarily silt and clay with ~5% gravel to 5 mm and ~35% medium to fine grained sand. The sand and gravel are angular to subangular. The fines have high plasticity and are very tough, and do not react to HCI. Section has 5YR 5/4 coloring with Cley 2								
35-	-		5/5B color from 40.5 - 44 ft bgs.								
	4315										
40-	-										
	4310										
45-		sc	Clayey Sand (44 - 48) Dry to moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The								

Project Name: PWS Characterization Project Number: 136739.003 Soil Boring Monitoring Well: Piezometer Boring/Well Name: LEP-MW-81 Sheet 3 of 5										
Soil I	Boring	M	fonitoring Well: A Piezometer. Boring/We	ell Na	ame	: <u>Ll</u>	EP-MV	N-81 Sheet 3 of 5		
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks		
-	4305—		fines are nonplastic, and do not react to HCI.							
50-	4300-	CL	Lean Clay (48 - 55) Dry to moist, very dense, no odor. Primarily silt and clay with ~5% gravel to 5 mm and ~40% medium to find grained sand. The sand and gravel are angular to subangular. The fines have high plasticity and are very tough, have the 5YR 5/4 coloring, and do not react to HCI.							
55-	4295—	SW	Well Graded Sand (55 - 60) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~10% sit and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.							
	4290 —	sc	Clayey Sand (60 - 66) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~6% gravel to 15 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, have the 5YR 4/4 coloring, and do not react to HCI.							
- - - - 70-	4285—	SM	Silty Sand (66 - 74) Dry to moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, have the 5YR 5/2 coloring, and do not react to HCI.							

Proj	ect Nai	me: PW	S Characterization				I	Project Number:136739.003			
Soil 1	Boring	M	fonitoring Well: Piezometer: Boring/We	ame: <u>LEP-MW-8I</u> Sheet <u>4</u> of <u>5</u>							
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks			
-	4280	SC	Clayey Sand (74 - 76)								
75- -	- - 4275—	sw	Dry to moist, very dense, no odor. Primanily medium to fine sand with ~10% gravel to 10 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Well Graded Sand (76 - 78) Saturated, dense, no odor. Primanily medium to fine sand with ~10% gravel to 15 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The								
80-	- - -	SC	fines are nonplastic, and do not react to HCI. Clayey Sand (78 - 80) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a weak reaction to HCI. Section has gray clasts which are highly reactive to HCI.					_ LEP-MW-8I screened from 80 - 90 ft			
-	4270— -	SW	Well Graded Sand (80 - 84) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					bgs			
85-	4265—	CL	Lean Clay (84 - 88) Dry to moist, very dense, no odor. Primarily silt and clay with ~5% gravel to 5 mm and ~30% medium to fine grained sand. The sand and gravel are angular to subangular. The fines have high plasticity, have the 5YR 5/4 coloring, and do not react to HCI.								
-		SW	Well Graded Sand (88 - 89) Saturated, loose to dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded.			111					
90-		SP-SM	The fines are nonplastic, and do not react to HCI. Poorly Graded Sand with Silt (89 - 90.5) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~10-15% silt and clay.								
95–	4260-	CL	The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Sandy Lean Clay (90.5 - 99) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~35% silt and clay. The sand and gravel are angular to subangular. The fines have high plasticity, have the 5YR 5/6 coloring, and do not react to HCI. Section has oxidized iron banding.								

	Boring[/S Characterization fonitoring Well: Piezometer: Boring/We	l Na	ame	e: <u>Ll</u>		Project Number:136739.003
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
- 10-	4255—	SC CL SP CL	Clayey Sand (99 - 100) Moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, have the 5YR 5/6 coloring, and do not react to HCI. Sandy Lean Clay (100 - 102.5) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~35% silt and clay. The sand and gravel are angular to subangular. The fines have high plasticity, have the 5YR 5/6 coloring, and do not react to HCI. Poorly Graded Sand (102.5 - 104) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~10% silt and clay. Section has no reaction to HCI. Sandy Lean Clay (104 - 106) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~30% silt and clay. The sand and gravel are angular to subangular. Section has 5YR 5/6 coloring, and does not react to HCI. Poorly Graded Sand (106 - 108) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~10-15% silt and clay. The sand and gravel are subangular to subangular. Section has 5YR 5/6 coloring, and does not react to HCI. Poorly Graded Sand (106 - 108) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~10-15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Bottom of Borehole at 108 feet below ground surface.					
- 120— -	- -							

Brown and Caldwell BORING LOG

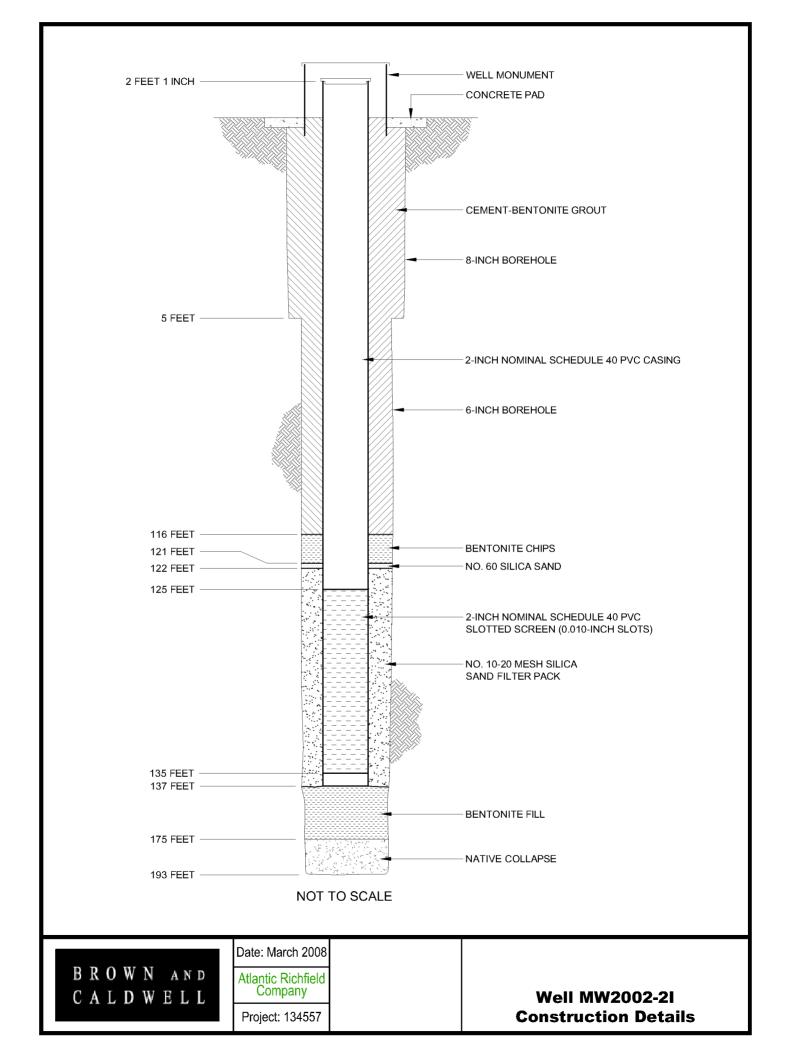
Proj	ect Na	me: PW	/S Characterization		Project Number:136739.003							
Soil	Boring	N	fonitoring Well: X Piezometer: Boring/We	ell N	am	e: <u>L</u>	EP-M	N-9I	Sheet 1 of 5			
Bori	ng Loc	ation: On	Site, north of Pumpback Well System					55671.1	Easting: 324820.8			
Dril	ling Co	ntractor:	Cascade Drilling Inc.			Top of PVC Elevation: 4353.9 feet amsl Ground Surface Elevation: 4352 feet amsl						
Dril	Drilling Equipment: CS 500 Sonic Drill Rig							3/4/09	Date Finished: 3/5/09			
Dril	Drilling Method: Sonic, utilized 4" core barrel						eted	108 fbgs	Water Depth: 21.07 fbmp			
Sam	pling N	Method:	NA Driller: R. LaBrosse Sr.					WELL CON	STRUCTION			
Wel	Seal:]	NA	Borehole Diameter: 6		T	ype ar Well	ıd Dia Casin	meter g: 2-inch Sc	chedule 40 PVC			
Log	ged By:	: C. Strau	SS Drilling Fluid: NA		S	lot Siz	e: 0.0	20 Filter M	aterial: #3 Silica Sand			
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction		Remarks			
5-	-4350	3	No Recovery (0 - 6) No Recovery due to vacuum truck removal.					ASTM Metho procedure), a nomenclatur Classification Horizontal S State Plane Nevada with Processing S 2703), designed	urvey data is expressed in the Coordinate System (SPCS) for a Federal Information Standard code, 2703 (FIPS nated as Nevada State Plane in rerican Datum of 1927 system D), West zone, and unit of			
	4345-	SW	Well Graded Sand (6 - 8) Dry, loose, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					Sharp conta	cts indicated by solid lines, contacts indicated by dashed			
10-			No Recovery (8 - 10)			\setminus		All depths ar stated other	e below land surface unless vise.			
	-4340	SM	Silty Sand (10 - 13) Dry, losse, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					PVC Stickup Cement - Be Bentonite Ch #3 Silica Sar 2-inch Nomin (0.020-inch)	ntonite Grout: 0 - 89 feet nips: 89 - 92 feet nd Filter Pack: 92 - 108 feet nal Schedule 40 PVC Slotted Screen: 94 - 104 feet			
15-	4335—	SW	Well Graded Sand (13 - 18) Moist, loose, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.	-				Additional Be	entonite Fill: feet			
	-	SW	Saturated, no odor. Primarily coarse to medium sand with ~15% gravel and ~5-10% silt and clay. The sand and gravel are subangular to rounded. The fines are nonplastic.									

•	ct Nan		VS Characterization				•	Number: 136/39.003
Soil B	oring:	N	Monitoring Well: Piezometer. Boring/We	ell Na	ame	: LEP	MW-91	Sheet _2 of _5
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	TODO INCIDENTAL PROPERTY OF THE PROPERTY OF TH	Remarks
25-	4330-	SM	Silty Sand (24 - 28) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Section has iron staining.					
30-	4325—	SW	Well Graded Sand (28 - 31) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~10% silt and clay. The sand and gravel are subangular to rounded. The fines are nonplastic, and do not react to HCI. Strongly oxidized iron rich sands from 30-31 (7.5YR 5/8) ft bgs. Clayey Sand (31 - 34)					
	4320-	SC	Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, have the 5YR 6/1 coloring, and do not react to HCI. Strongly oxidized zones mixed through section. Zones are no more than 1-2 inches thick, but usually much smaller (with 7.5YR 5/8 coloring).					
35-	-	SP	Poorly Graded Sand (34 - 36) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Mainly smaller-end medium and coarser fine sand. Sandy Lean Clay (36 - 38)					
	4315—	CL	Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~35% silt and clay. The sand and gravel are angular to subangular. The fines have high plasticity, have the 5YR 5/4 coloring, and do not react to HCl. Lean Clay (38 - 48) Dry to moist, dense, no odor. Primarily silt and clay with ~5% gravel to 5 mm and ~35% medium to fine grained sand. The sand and gravel are angular to subangular.					
40-	4310		The fines have high plasticity and are very tough, have a gray color (Gley 2 8/5PB), and do not react to HCl.					

Proj	ect Na	me: PW	/S Characterization]	Project Number: .	136739.	003	_			
Soil	Boring	: M	fonitoring Well: X Piezometer: Boring/We	II Na	ame	: <u>L</u>	EP-MV	V-9I		Sheet _3	_ of	f_5
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction		Remarks			
-	4305—			-								
-	-	CL	Lean Clay (48 - 49.5) Dry to moist, very dense, no odor. Primarily silt and clay with ~5% gravel to 5 mm and ~45% medium to fine grained sand. The sand and gravel are anyolar to subangular. The fines have high plasticity and are very tough, have the									
50-	4300-	SW-SM	SYR 5/8 coloring, and do not react to HCI. Well Graded Sand with Silt (49.5 - 52) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~10-15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.									
-	_	CL	Sandy Lean Clay (52 - 54.5) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~35% silt and clay. The sand and gravel are angular to subangular. The fines have moderate to high plasticity, are moderately tough, have the 5YR 5/4 coloring, and have a weak reaction to HCI.									
55-	-	SP	Poorly Graded Sand (54.5 - 56) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.			,,,,,,						
-	4295—	CL	Lean Clay (56 - 58.5) Dry. very dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~40% sift and clay. The sand and gravel are angular to subangular. The fines have high plasticity and are very tough have the 5YR 5/4 coloring, and do not react to HCI.									
60-	-	SC	Clayey Sand (58.5 - 62) Primarily medium to fine sand with ~5% gravel to 10 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. Iron staining noted around 61.5 ft bgs.									
							3 8					
-	4290-	SW	Well Graded Sand (62 - 64) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.			CA X.A						
0.5		sc	Clayey Sand (64 - 65) Moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~20% silt and clay. The									
65-] -	SP	gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic, and do not react to HCI.									
-	4285-	CL	Poorty Graded Sand (65 - 66.5) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.									
-] -	CL	Lean Clay (66.5 - 68) Moist, very dense, no odor. Primarily silt and clay with ~5% gravel to 10 mm and ~45% medium to fine grained sand. The sand and gravel are subangular to subrounded.									
70-	-	SW	The fines have high plasticity, and have no reaction to a weak reaction to HCl. From 65.5 - 67 ft bgs section has no reaction to HCl. From 67 - 68 ft bgs section has weak reaction to HCl.									

roje	et Nan	ne: _PW	/S Characterization			-		Project Number:136739.003
oil E	Boring[M	fonitoring Well: Piezometer: Boring/We	II N	ame	e: <u>LE</u>	EP-MV	N-91 Sheet 4 of _
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
	4280		Sandy Lean Clay (68 - 69.5) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~35% silt and clay. The sand and gravel are angular to subangular. The fines are norplastic to low plasticity and toughness, have the 5YR 5/4 coloring, and have no reaction to strong reaction to HCI. Gray, highly reactive clasts present in section. Well Graded Sand (69.5 - 77) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
-	4275	SC CL	Clayey Sand (77 - 78) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
0-			Sandy Lean Clay (78 - 81) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~35% silt and clay. The sand and gravel are angular to subangular. The fines have moderate to high plasticity, are moderately tough, have the 2.5YR 4/6 coloring, and do not react to HCl.					
	4270-	SM	Silty Sand (81 - 83) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
- 5-	-	SP	Poorly Graded Sand (83 - 85.5) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
-	4265—	SC	Clayey Sand (85.5 - 88) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~25% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic, have the 2.5YR 4/8 coloring, and have no reaction to a weak reaction to HCI.					
0-		CL	Lean Clay (88 - 91) Dry to moist, very dense, no odor. Primarily silt and clay with ~5% gravel to 5 mm and ~40% medium to fine grained sand. The sand and gravel are angular to subangular. The fines have high plasticity.					
-	4260-	SC	Clayey Sand (91 - 95) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have the 5YR 5/4 coloring.					LEP-MW-912 screened from 84 -
5-		SW	Well Graded Sand (95 - 98) Primarily medium to fine sand with ~10% gravel and ~10% silt and clay. Section is dense. The fines are	-				104 ft bgs

Project Name: PWS Characterization Project Number: 136739.003 Soil Boring: Monitoring Well: Piezometer: Boring/Well Name: LEP-MW-9 Sheet 5 of 5											
Soil:	Boring	;□ M	onitoring Well: A Piezometer: Boring/Wel	l Na	ame	: <u>LE</u>	EP-M\	N-91 Sheet <u>5</u> of <u>5</u>			
Depth (ft)	Elevation (famsl)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks			
-	4255—		nonplastic, with more fines (~15%) towards 98 ft bgs.								
100-	-	CL	Lean Clay (98 - 101) Primarily silt and clay with ~5% gravel and ~40% medium to fine grained sand.								
- -	4250-	SW	Well Graded Sand (101 - 103) Saturated. Primarily medium to fine sand with ∼5% gravel and ∼10% silt and clay. Section becomes finer towards the bottom.								
	-	SM	Silty Sand (103 - 104) Primarily medium to fine sand with ~5% gravel and ~15% silt and clay.								
105-	-	SW	Well Graded Sand (104 - 105) Saturated. Primarily medium to fine sand with ∼5% gravel and ∼10% silt and clay. The sand and gravel are subangular to rounded.								
-	4245—		Sandy Lean Clay (105 - 108) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel and ~35% silt and clay.								
-	-]	Bottom of Borehole at 108 feet below ground surface.								
110-	-	-									
-	-4240	_									
115-	-	-									
-	4235—										
120-	-	-									



Brown and Caldwell BORING LOG

Project Na	me: _Yer	ington Second Step Hydrogeolog				Pr	oject Number:	132025			
Soil Boring	g: M	onitoring Well: X Piezomet	ter: Boring/Well	Nu	mbe	r:	W200	2-21	Sheet <u>1</u> of <u>11</u>		
Boring Lo	cation: Insi	ide Mine Site to the Northwest			Northing: Easting:						
Drilling Co	ontractor:	Boart Longyear	Driller: R. Salois		Top of PVC Elevation: feet amsl Ground Surface Elevation: feet amsl Date Started: 6/29/07 Date Finished: 7/12/07						
Drilling Eq	quipment: (GP24-300RS	Borehole Diameter:6-inches								
Drilling M	ethod: Son	ic	Drilling Fluid: Water		Con Dep	nplete th:	d 193	fbgs	Water Depth: fbmp		
Sampling 1	Sampling Method: Core Barrel								STRUCTION		
Well Seal:	Bentonite	and Cement			Typ of V	e and Vell C	Diame asing:	ter 2-inch Sc	hedule 80 PVC		
Logged By	P. Spille	rs and C. Strauss			Slot	Size:	0.010	inch Filter M	aterial: #10-20 Silica Sand		
Depth (ft) Elevation (ft)	USCS Group Symbol	Material D	escription	Sample Name	Sample Location	Lithology	Well Construction		Remarks		
5-	SP-SM	Poorly Graded Sand with S Dry, loose, no odor. Primar with ~5% gravel to 20mm an sand and gravel are subang fines have no plasticity and k reaction to a weak reaction to light brown to brown color. In with strong HCl reaction fron coarse, subangular gravel up	rily medium to fine sand to ~10% silt and clay. The ular to subrounded. The ow toughness, and have no o HCI. The zone has a creased calcium carbinate on 7' to 12' and some					Method D-24 grain-size det based on the System. Horizontal Su Nevada State zone, in feet. Sharp contac gradational co All depths are otherwise. WELL DESIC PVC Stickup: Cement - Be Bentonite Ch No. 60 Silica #10-20 Silica 2-inch Nomin Slotted Scree Native Collap Additional Be	ntonite Grout: 0 - 116 feet ips: 116 - 121 feet Sand: 121 - 122 feet Sand Filter Pack: 122 - 141 feet al Schedule 80 PVC 0.010 en: 125 - 135 feet se: 175 - 193 feet ntonite Fill: 141 - 175 feet		

Proj	ect Na	me: Yer	ngton Second Step Hydrogeologic Framework Assessment		_		Pr	oject Number:132025
Soil l	Boring	: M	onitoring Well: X Piezometer: Boring/Well	Nur	nbe	r: _ N	IW2002	Sheet <u>2</u> of <u>11</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
20-		CH SM	Sandy Fat Clay (21 - 22) Dry, very dense, no odor. Primarily silt and clay with ~5% gravel to 20mm, ~10% coarse grain sand. ~15% medium grain sand and ~10% fine grain sand. The sand and gravel are angular to subangular. The fines have moderate to high plasticity, is very tough, and have no reaction to a weak reaction to HCI. The zone is reddish brown in color. Sand is well graded. Silty Sand with Gravel (22 - 24) Dry, dense, no odor. Primarily medium to fine sand with ~20% gravel to 30mm, ~20% coarse grain sand~ and 20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI. Poorly Graded Sand with Silt (24 - 31) Dry, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to 20mm, ~10% coarse grain sand and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a weak to strong reaction to HCI. Thin clayey sand seam from 29.5 to 30 feet below ground surface.					
_	-	SM	Silty Sand (31 - 32.5) Dry, very dense, no odor. Primarily coarse to fine sand with ~10% gravel to 20mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.			7777		
-		SC	Clayey Sand (32.5 - 36.5) Slightly moist, no odor. Primarily medium to fine sand with ~10% gravel to 15mm and ~20% silt and clay. The sand and gravel are subangular. The fines have low					

_	ect Na	_	ngton Second Step Hydrogeologic Framework Assessment		_		· ·	Number: 132025
Soil I 	Boring	: M	onitoring Well: X Piezometer: Boring/Well	Nui	mbe	r: <u>M</u>	W2002-2I	Sheet <u>3</u> of <u>11</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
35-		1	HCI.					
_		SM	Silty Sand (36.5 - 37.5) Dry, no odor. Primarily medium to fine sand with ~5% gravel to 15mm, ~15% coarse grain sand and ~10% silt and clay. The sand and gravel are subangular. The fines are nonplastic, and do not react to HCI.					
-		SP-SM	Clayey Sand (37.5 - 39) Dry, very dense, no odor. Primarily fine sand with ~5% coarse grain sand to 5mm with ~ 20% medium grain sand and ~25% silt and clay. The sand is subangular to subrounded. The fines have low to medium plasticity with low toughness, and do not react to HCI.	-				
40-		CL	Poorly Graded Sand with Silt (39 - 41) Very moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 15mm, ~15% coarse grain sand and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.	_				
-		SC	Sandy Lean Clay (41 - 43) Moist to saturated, very dense, no odor. Primarily silt and clay with ~5% gravel to 15mm, ~10% coarse grain sand, ~25% medium to fine grain sand. The sand and gravel are subangular. The fines have low to medium plasticity and toughness, and do not react to HCI.	_				
45-		SP-SC	Clayey Sand (43 - 44) Moist to saturated, no odor. Primarily medium to fine sand with ~5% gravel to 15mm, ~15% coarse grain sand and ~30% silt and clay. The sand and gravel are subangular. The fines have low to medium plasticity and toughness, and have a strong reaction to HCl.					
-			Poorly Graded Sand with Clay (44 - 60) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 15mm, ~5% coarse grain sand and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and have a weak reaction to HCI.					
50-								
-							—	MW-2002-2S screened from 51 to 61 feet

	ect Na Boring		Ingion Second Step Hydrogeologic Planework Assessment Ionitoring Well: X Piezometer: Boring/We	ll Nu	— nbe	r: <u>N</u>	Pr W2002	2-21 Sheet <u>4</u> of <u>11</u>
	- 0							
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
55 –					•			
-				MW2002-2I@55-60				
60 — -		sc	Clayey Sand (60 - 64) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 15mm, ~10% coarse grain sand and ~35% silt and clay. The sand and gravel are angular to subangular. The fines have low to medium plasticity and toughness, and have a weak reaction to HCl.					
65-		SC	Clayey Sand (64 - 66) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 15mm, ~5% coarse grain sand and ~35% silt and clay. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, and have a weak reaction to HCI.					
-		SC	Clayey Sand (66 - 68) Moist, no odor. Primarily medium to fine sand with ~5% gravel to 25mm, ~10% coarse grain sand and ~40% silt and clay. The sand and gravel are subangular. The fines have moderate to high plasticity, is very tough, and have a weak reaction to HCl.					
70-		SC	Clayey Sand (68 - 72) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 40mm with ~ 15% coarse sand and ~25% silt and clay. The sand and gravel are subangular. The fines have low plasticity and toughness, and have no reaction to a weak reaction to HCI.					

·	ect Na Boring		Ington Second Step hydrogeologic Framework Assessment Ionitoring Well: X Piezometer: Boring/We	II Nur	— nho	r M	Pr W2003	2-2 Sheet <u>5</u> of <u>11</u>
3011 1	boring		Tozonicing wen. 25 Trozonicion.	ii i v ui	iibe	ı. <u></u>		Sheet 01
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
 75 - -		SC	Clayey Sand (72 - 80) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 20mm, ~10% coarse grain sand and ~40% silt and clay. The sand and gravel are subangular to subrounded. The fines have moderate to high plasticity, are very tough, and have a weak reaction to HCI.					
80-		SC	Clayey Sand (80 - 82) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 20mm with ~ 20% coarse sand and ~20% silt and clay. The sand and gravel are subangular. The fines have low plasticity and toughness, and have a weak reaction to HCl.	-21@80-85	•			
-		SC	Clayey Sand (82 - 84.5) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10mm, ~5% coarse grain sand and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and have a weak reaction to HCI.	MW2002-2I@				
85-		SC	Clayey Sand with Gravel (84.5 - 88) Moist to saturated, very dense, no odor. Primarily coarse to medium sand with ~20% gravel to 40mm with ~30% fine grain sand~ and 20% silt and clay. The sand and gravel are subangular. The fines have low plasticity and toughness, and have a weak reaction to HCI.		•			
90-		SM	Silty Sand (88 - 90) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10mm, ~10% coarse grain sand and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and have a strong reaction to HCI.					
		SM	Silty Sand (90 - 100) Saturated, dense, no odor. Primarily medium to fine					

	ect Na Boring		Ionitoring Well: X Piezometer: Boring/We	ll Nui	— nbe	r:M	Pro W2002	2-21 Sheet <u>6</u> of <u>11</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
-			sand and ~15% silt and clay. The sand and gravel are subangular. The fines are nonplastic to low plasticity and toughness, and have a weak reaction to HCl. There is increased coarse sand and gravel from 96 to 100 feet below ground surface.					
95 - - -				MW2002-21@95-100				
-		SM	Silty Sand (100 - 104) Moist to saturated, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10mm, ~10% coarse grain sand and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and have a weak to strong reaction to HCI. There are increased fines compared to 96-100 feet zone and increased gravel from 103 to 104 feet.					
		SC	Clayey Sand with Gravel (104 - 110) Dry to slightly moist, very dense, no odor. Primarily medium to fine sand with ~25% gravel to 90mm, ~15% coarse grain sand and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines have moderate to high plasticity, is very tough, and do not react to HCl.					

Proj	ect Na	.me: Yeri	ington Second Step I	Hydrogeologic Framewor	k Assessment		_		Pr	oject Number: <u>132</u>	025
Soil I	Boring	.: M	Ionitoring Well: X	Piezometer:	Boring/Well	Nun	nbe	r: <u>M</u>	W200	2-21	Sheet7_ of11_
Depth (ft)	Elevation (ft)	USCS Group Symbol	N	Material Description		Sample Name	Sample Location	Lithology	Well Construction	Rem	arks
- - 115 —		SC	to fine sand with grain sand and are subangular. react to HCI. Clayey Sand (1 Dry to moist, ve to fine sand with grain sand and gravel are subar low to medium preaction to a wear	ted, dense, no odor. Prin 1 ~10% gravel to 20mm, 1 15% silt and clay. The sa The fines are nonplastic	~15% coarse and and gravel , and do not aarily medium 10% coarse sand and ne fines have and have no e is a silty sand						
- 120 — - -		SP-SM	Saturated, very fine sand with ~ grain sand and are subangular. reaction to a wear	Sand with Silt (118 - 13) dense, no odor. Primari 10% gravel to 30mm, ~20~15% silt and clay. The sa The fines are nonplastic ask reaction to HCI. Fines lore gravel, ~20%, from 1 urface.	ily medium to 0% coarse and and gravel , and have no vary from						
125 — - -										MW-2002-2 135 feet	I screened from 125 to

•			ngton Second Step Hydrogeologic Framework Assessment		_			oject Number: 132023
Soil	Boring	: M	onitoring Well: X Piezometer: Boring/We	ell Nu	nbe	r: ^V	W2002	2-21 Sheet <u>8</u> of <u>11</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
				T	•			
130 –		SP-SM	Poorly Graded Sand with Silt (130 - 131.5) Moist to saturated, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 60mm, ~15% coarse grain sand and ~15% silt and clay. The sand and gravel are subangular. The fines are nonplastic, and do not react to HCI.	MW2002-2I@129-134		7///		
-		SC	Clayey Sand (131.5 - 133) Moist to saturated, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 25mm, ~15% coarse grain sand and ~25% silt and clay. The sand	MW2002				
		SP-SM	and gravel are subangular to subrounded. The fines have low plasticity and toughness, and have a weak to strong reaction to HCl.					
135-			Poorly Graded Sand with Silt (133 - 136) Saturated, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 60mm, ~15% coarse grain sand and ~15% silt and clay. The sand and gravel are subangular. The fines are nonplastic, and do not react to HCl.					
-		CL	Sandy Lean Clay (136 - 137.5) Dry to slightly moist, very dense, no odor. Primarily silt and clay with ~10% gravel to 10mm, ~15% coarse grain sand and ~25% medium to fine grain sand. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and have a					
-		SM	\text{weak reaction to HCl.} Silty Sand (137.5 - 139) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10mm, ~10% coarse grain sand and ~25% silt and clay. The gravel is angular to			777777		
140-		CL	subangular and the sand is subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCI.					
-		SP-SM	Sandy Lean Clay (139 - 140) Dry to slightly moist, very dense, no odor. Primarily silt and clay with ~10% gravel to 10mm, ~15% coarse grain sand and ~25% medium to fine grain sand. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and have a weak reaction to HCl.					
-		CL	Poorly Graded Sand with Silt (140 - 142.5) Moist, very dense, no odor. Primarily coarse to fine sand with ~15% gravel to 20mm and ~10% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic, and have a weak reaction to HCI.					
145-		SC	Sandy Lean Clay (142.5 - 145) Dry to moist, very dense, no odor. Primarily silt and clay with ~5% gravel to 15mm, ~5% coarse grain sand and ~30% medium to fine grain sand. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, and have a weak to strong reaction to HCl.					
-			Clayey Sand (145 - 148) Dry to moist, very dense, no odor. Primarily coarse to fine sand with ~10% gravel to 15mm and ~40% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCl.					

•			ington Second Step Hydrogeologic Framework Assessment		_			oject Number: 132025
Soil 1	Boring	: M	fonitoring Well: X Piezometer: Boring/Wel	l Nur	nbe	r: <u>M</u>	W2002	2-2 Sheet <u>9</u> of <u>11</u>
Depth (ft)	Elevation (ft)	USC	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
- 150 — - -		SC	Clayey Sand (148 - 154) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15mm, ~10% coarse grain sand and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCl.					
- 155 — -	-	CL SP-SM	Sandy Lean Clay (154 - 156) Dry to moist, very dense, no odor. Primarily silt and clay with ~10% gravel to 25mm, ~10% coarse grain sand and ~40% medium to fine grain sand. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCI. Poorly Graded Sand with Silt (156 - 159) Saturated, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 30mm, ~10% coarse					
160 —		CL	grain sand and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Sandy Lean Clay (159 - 167) Moist, very dense, no odor. Primarily silt and clay with ~10% gravel to 15mm, ~10% coarse grain sand and ~30% medium to fine grain sand. The gravel is subangular and the sand is subrounded. The fines have low plasticity and toughness, and have a strong reaction to HCI.					
- 165 – -					• • •			

Proje	ect Na	me: Yeri	ngton Second Step Hydrogeologic Framework Assessment				Pr	roject Number: 132025	
Soil I	Boring:	: M	onitoring Well: X Piezometer: Boring/Wel	l Nu	mbe	r:N	W200	2-21	Sheet <u>10</u> of <u>11</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks	
-		SW-SM	Well-Graded Sand with Silt (167 - 168) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 30mm, ~10% coarse grain sand and ~15% silt and clay. The gravel is subangular and the sand is subrounded. The fines are nonplastic,	MW2002-2I@165-170	•				
- 170 <i>-</i> -		CL	\and do not react to HCI. Silty Sand (168 - 169) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10mm, ~10% coarse grain	MW2002	•				
_		SP	sand and ~25% silt and clay. The sand and gravel are subangular. The fines are nonplastic, and do not react to HCl. Sandy Lean Clay (169 - 170)						
-			Dry to moist, very dense, no odor. Primarily silt and clay with ~10% gravel to 20mm, ~5% coarse grain sand and ~30% medium to fine grain sand. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, and do not react to HCl.						
- 175—			Poorly Graded Sand (170 - 176) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 25mm, ~5% coarse grain sand and ~15% silt and clay. The sand and gravel are subangular. The fines are nonplastic, and do not react to HCl.						
_		SM	Silty Sand (176 - 177.5) Moist, very dense, no odor. Primarily medium to fine	_					
_		SM	sand with ~10% gravel to 50mm, ~15% coarse grain sand and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCl.						
_		SIVI	Silty Sand (177.5 - 181.5) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 15mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a						
180-			strong reaction to HCl.						
-		CL	Sandy Lean Clay (181.5 - 184) Dry, very dense, no odor. Primarily silt and clay with ~5% gravel to 30mm and ~35% medium to fine grain sand. The sand and gravel are subangular to subrounded. The fines have low to medium plasticity and toughness, and have a strong reaction to HCI.						
185—		SM	Silty Sand (184 - 186) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 15mm with ~10% coarse grain sand and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.						
			Well-Graded Sand (186 - 188.5)		<u> </u>				

Proje	ect Na	me: Yen	ington Second Step Hydrogeologic Framework Assessment		_		Pr	oject Number:132025
Soil I	Boring:	: M	Ionitoring Well: X Piezometer: Boring/Well	Nui	mbe	r: <u>M</u>	W200	Sheet <u>11</u> of <u>11</u>
Depth (ft)	Elevation (ft)	M USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
-		SW	Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 15mm with ~10%coarse grain sand and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl. Three-inch diameter granite flow deposits at 188.5 feet below ground surface.	MW2002-2I@184-189	•			
190—		CL	Sandy Lean Clay with Gravel (188.5 - 190) Dry, very dense, no odor. Primarily silt and clay with ~20% gravel with ~10% coarse grain sand and ~10% medium to fine grain sand. The gravel is subangular. The fines have low plasticity and toughness, and have a strong reaction to HCl. Four inches of tuff at 190 feet	M	•			
-		CL	below ground surface. Sandy Lean Clay with Gravel (190 - 191.5) Dry, very dense, no odor. Primarily silt and clay with ~15% gravel with ~10% coarse grain sand and ~35% medium to fine grain sand. The sand and gravel are					
		CL	subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCI. Sandy Lean Clay (191.5 - 193) Dry to moist, very dense, no odor. Primarily silt and clay with ~10% gravel to 10mm and ~40% medium to fine grain sand. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Bottom of Borehole at 193 feet below ground surface.					

WHITE—DIVISION OF WATER RESOURCES CANARY—CLIENT'S COPY PINK—WELL DRILLER'S COPY

STATE OF NEVADA

DIVISION OF WATER RESOURCES

WELL DRILLERS REPORT

OFFICE USE ONLY Log No. 25329 Permit No. DU Basin/1450N V.

PRINT OR TYPE ONLY

Please complete this form in its entirety

			•		NOTICE OF INTENT NO.10-11-83
. OWNER Anaconda	Minera	als		1	ADDRESS AT WELL LOCATION
MUILIMO UDDKE22XXX	h.(h.h.h	may 1947, 24			Tear Higton, Nevada
Denver, Color	ado 8	30202	*************		
2. LOCATIONNW	V14	Sec4	T	13	N/X R 25 E Lyon County
PERMIT NO Issued by Water Res					
issued by Water Res		<u> </u>			Subdivision Name
TYPE OF WOR		ONITOR	1		PROPOSED USE 5. TYPE WELL
	ondition		1	nestic [
Deepen 🗌 Oth	ier	X	Mun	icipal [Industrial Stock Other O
5. LITHOL	OGIC LO)C			8. WELL CONSTRUCTION
LITAUL		,			Diameter hole 10 inches Total depth 91 feet
Material	Water Strata	From	То	Thick- ness	Casing record 10 ft. of 10" casing
Man made - mine waste		0	2	2	Weight per footThickness 1/4"
Clay - silty		2	5	. 3	Diameter From To
Sand - fine		5	6	ī	10 inches 0 feet 10 feet
Sand - well graded		6	8	2	inches feet feet
Clay - silty		8	9	i	feetfeet
Sand and clay		9	18	9	inchesfeetfeet
Clay - silty		18	22	4	inchesfeetfeet
Sand - fine		22	24	2	inches feet feet
Clay - silty		24	27	_3_	Surface seal: Yes 🕅 No 🗆 Type
Sand - fine		_27	29	2	Depth of sealfeet
Clay - silty		29	32	_3_	Gravel packed: Yes 🛛 No 🗆
Sand - fine		32	35	3	Gravel packed from 73 feet to 91 feet
Clay - silty		35	37	2	
Sand - fine		37	40	3	Perforations:
Clay - medium hard		40	47	7	Type perforationscreened
Sand - fine		47	52	5	Size perforation
Sand - gravelly		52	55	3	From Blank 0 feet to 75 feet
Sand - well graded		55	60	5	From screened 75 feet to 89 feet
Clay - silty		60	62	2	From blank 89 feet to 91 feet
Sand - will graded		62	67	5	From feet to feet
Sand and clay		67 71	71	4	Fromfeet tofeet
Clay - silty		<u>/1</u> 75	75 79	4	9. WATER LEVEL
Sand - well graded Clay - silty		75 79	83	4	Static water level 2.9 feet below land surface
Sand - fine		83	84	1	Flow G.P.M P.S.I.
Clay - silty		84	87	3	Water temperature° F. Quality
Sand - well graded		87	90	3	The state of the s
Clay - silty			91	1	10. DRILLERS CERTIFICATION
Date started 10-27				, 1983	This well was drilled under my supervision and the report is true to
Date completed 10-28		************	****************	1983	the best of my knowledge.
				,	Name Lang Exploratory Drilling (Alan Lang We
v. Well 1	EST DA	TA si	29 July	1: 6	Contractor Pump Inc.)
·					Address 185W. 3300 So. SIC, Utah 84115
Pump RPM G.P.M.	Draw	Down	After Hour	rs Pump	Contractor
					Nevada contractor's license number 016675
			· · ·		
				,	Nevada contractor's drillers number 020710
	_		***************************************		1
					Nevada driller's license number 1366.
BAIL	ER TEST				Alor Keng
G.P.M	raw dowr	1	feet	hours	Signed
G.P.M					4 20 04
					Date 4-30-64

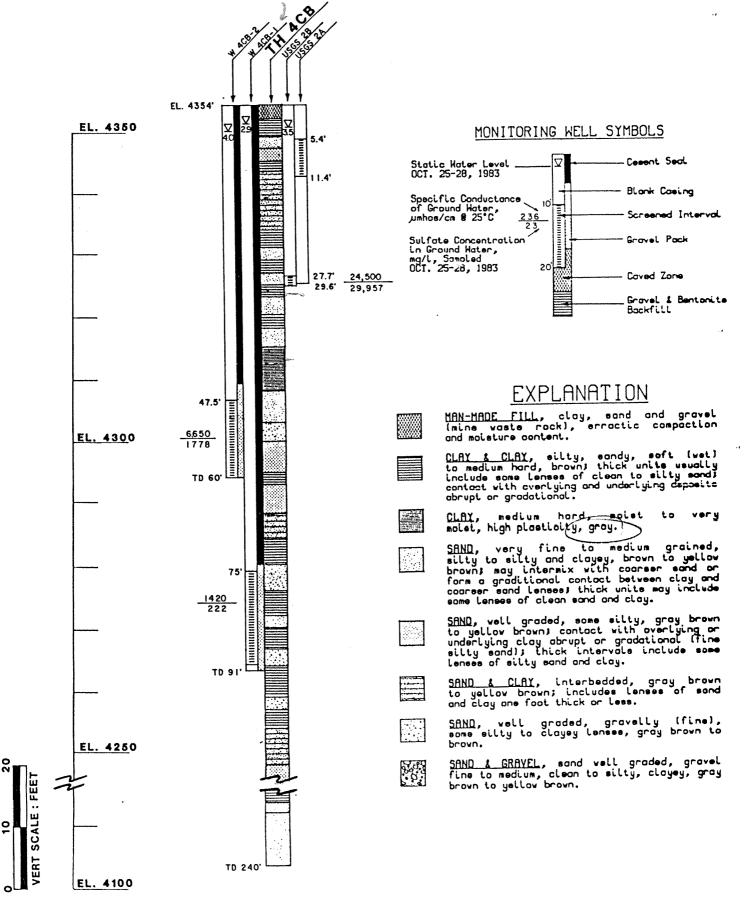


Figure 3 Well Completion Details and Lithologic Log for W4CB Well Site

WHITE—DIVISION OF WATER RESOURCES CANARY—CLIENT'S COPY PINK-WELL DRILLER'S COPY

STATE OF NEVADA **DIVISION OF WATER RESOURCES**

office use only Log No. 25320

Permit No. BOW V

WELL DRILLERS REPORT

PRINT OR TYPE ONLY

Please complete this form in its entirety

I. OWNER And	aconda Mine	rals			1 /	NOTICE OF INTENT NO. ILLEG LU-L ADDRESS AT WELL LOCATION
MAILING ADDR	ess 555]	7th St	reet	******************		Yearington, Nevada
Der	nver, Color	ado 8	0202			
2. LOCATION	NW 1/4 SW	1/4	Sec	4 T	13N	N/S R 25 E E Lyon County
PERMIT NO	Issued by Water Per		 	Davael No.		Subdivision Name
					······	
	TYPE OF WOR			4.		PROPOSED USE 5. TYPE WELL
New Well		ondition			nestic 🔲	Irrigation
Deepen	Oth	er	X	Mun	icipal 🗆	Industrial Stock Other C
5.	LITHOL	ogic Lo)G			8. WELL CONSTRUCTION Diameter hole 10 inches Total depth 60 feet
Mater	rial	Water Strata	From	То	Thick- ness	Casing record 10 feet of 10"
Man made - n	nine waste		0	2	2	Weight per footThickness 1/4"
Clay - silty			2	5	3	Diameter From To
Sand fine			5	6	1	10feèt
Sand - well	oraded		6	8	2	inches feet feet
Clay - silty			8	9	1	inchesfeetfeet
Sand and cla			9	18	9	inchesfeetfeet
Clay - silty			18	22	4	inchesfeetfeet
Sand - fine			22	24	2	inchesfeetfeet
Clav - silt			24	27	3	Surface seal: Yes 🔀 No 🗆 Typeconcrete
Sand - fine			27	29	2	Depth of sealfeet
Clav - silt			29	32	3	Gravel packed: Yes ☑ No □
Sand - fine			32	35	3	Gravel packed from 45 feet to 60 feet
Clay - silt			35	37	2	
Sand - fine			37	40	3	Perforations:
Clay – medii			40	47	7	Type perforation screened
Sand - fine			47	52	5	Size perforation
Sand - grave			52	55	3	From blank 0 feet to 47 1/2 feet
Sand - well			55	60	5	Fromscreened 47 1/2 feet to 60 feet
	<i>y</i>					Fromfeet tofeet
						Fromfeet tofeet
						Fromfeet tofeet
					ļ	9. WATER LEVEL
				 	 	
				 	 	Static water level 4.0 feet below land surface Flow G.P.M. P.S.I.
					ļ	Water temperature F. Quality P.S.I.
						water temperature
						10. The Markett Drillers Certification
Date started	10-28				, 19 <u></u> 83	This well was drilled under my supervision and the report is true to
Date started Date completed	10-29				19.83	the best of my knowledge.
Date completed						Name Lang Exploratory Drilling (Alan Lan
7.	WELL 1	EST DA	TA	şŧ	ú. v (1.47)	Address 185 West 3300 South SLC, Utah 84115
Pump RPM	G.P.M.	Draw	Down	After Hou	rs Pump	Contractor
						Nevada contractor's license number 016675
						Nevada contractor's drillers number 020710
,						Nevada driller' glicepse number 1366
-	TAFF	ED TEST	,			Alpola Actual Driller
		ER TEST				Signed Contractor
G.P.M				.feet		ALAN LAND
G.P.M				.feet		L'alv
G.P.M	I	raw dow	n	.feet	hours	

ALUM CAPACHURUPITA URBINAMU AN FINAMULU COM

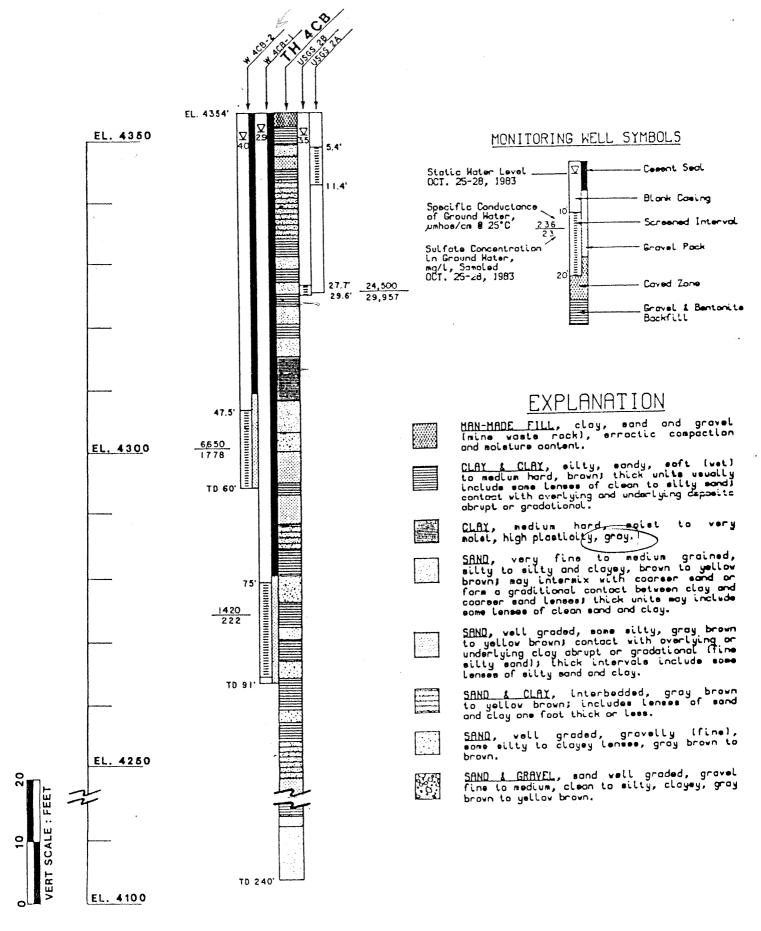


Figure 3 Well Completion Details and Lithologic Log for W4CB Well Site

STATE OF NEVADA

DIVISION OF WATER RESOURCES

WELL DRILLERS REPORT

PRINT OR TYPE ONLY

Please complete this form in its entirety

Log No. 25340	
Permit No. 200	
BasinMMSON V.	7-128
	filed

-1 OWNER	Anaconda M	ineral	e			NOTICE OF INTENT NO10-11-8
1. OWNER	255 555	17+h c	e troot			ADDRESS AT WELL LOCATION
MAILING ADDI	enver Color	5390 FV:FN:7	80303			Yearington, Nevada
2 10047101	NE COTO	2	22424		l.	N/R Z5 E LYOD County
2. LUCATION		H	Sec	T	ا۲۰	N/X R. Z. D. E. LyOn County
PERMIT NO	Issued by Water Res	ources	1	Parcel No.		Subdivision Name
3.	TYPE OF WOR	k MO	NITOR	4.		PROPOSED USE 5. TYPE WELL
New Well		condition		1	nestic [3.11.2 (122
Deepen	☐ Oth		X		nicipal [- 1
					neipai —	Medication of Stock of Other of
6.	LITHOL	ogic l	OG			8. WELL CONSTRUCTION
Mate	erial	Water Strata	From	То	Thick- ness	Diameter hole 10 inches Total depth 125 feet Casing record 10 ft. of 10"
Sand & clay	7	Juaca	0	1 3	3	Weight per footThickness_1/4"
Clay - silt			3	+ 7	4	1
Sand - well			7	15	8	Diameter From To
Clay - silt			15	17	2	
Sand - well	-4		17	20	3	feetfeet
Sand - fine			20	22	2	feetfeet
			<u> </u>			feet feet
Clay - silt			22	24	2	feetfeet
Sand - fine			24	28	4	feet feet
Sand - well			28	30	2	Surface seal: Yes X No Typecement
Clay - silt			30	32	2	Depth of seal feet
Sand - well			32	35	3	Gravel packed: Yes 🛛 No 🗆
Sand - fine			35	39	4	Gravel packed from51feet to73feet
Clay - medi			39	48	9	cement 73' to 125'
Clay - silt	.y		48	56	8	Perforations:
Sand - well	graded		56	60	4	Type perforation SCreened
Sand & clay	7		60	66	6	Size perforation
Sand - well	. graded		66	68	2	From Blank 0 feet to 58 feet
Clay - silt	У		68	- 72	4	From screened 58 feet to 73 feet
Sand - well	graded		72	77	5	From Blank 73 feet to 118 feet
Clay - silt			77	82	5	Fromfeet tofeet
Sand - fine			82	85	3	Fromfeet tofeet
Clay - silt			85	87	2	
Sand - well			87	91	4	9. WATER LEVEL
Sand - fine			91	97	6	Static water levelfeet below land surface
Clay - silt			97	101	4	Flow G.P.M P.S.I.
Sand & clay			101	106	5	Water temperature° F. Quality
Sand - well			106	110	4	1. Quanty
	ued on page	2 **	1=		<u> </u>	10. DRILLERS CERTIFICATION
Date started					10 02	This well was drilled under my supervision and the report is true to
Date completed						the best of my knowledge.
Date completed	······································	-40			, 17 0 .3	Name Lang Exploratory Drilling (Alan Lang We)
7.	WELL T	FST DA	ТА			Contractor Pump Inc.)
						Address 185 W. 3300 So. SLC. Utah 84115
Pump RPM	G.P.M.	Draw	Down	After Hou	rs Pump	Contractor
						Nevada contractor's license number 016675
						Nevada contractor's drillers number
						enteral de la comercia, extensión de la conjugação de la partir de la general de graen
<u> </u>	<u> Landina de la companya de la compa</u>					Nevada driller's license number1366
	BAILI	ER TEST	r			
G.P.M	``			feet	houre	
G.P.M	•					20.04
				feet		Date 4-30-64

STATE OF NEVADA **DIVISION OF WATER RESOURCES**

WELL DRILLERS REPORT

5-AA & 5-AA-1 office use only	page	2
Log No		
Permit No.		
Basin		

D	DI	UT	ΛD	TYPE	ONIT	U

Please complete this form in its entirety

				case com	piete tills	ioim in its entirety	NOTICE OF	INTENT NO	
						ADDRESS AT WELL LO			
						N/S RE			
PERMIT NO			1	***************	**************				
1	ssued by Water Res	ources	<u> </u>	Parcel No.		Subdivision Name			
	TYPE OF WOR	RK		4.		PROPOSED USE		5. TYPE WELL	
New Well		condition		1	nestic [Test □	Cable 🗌 Rotary 🗀	
Deepen	Otl	ner		Mun	icipal [Industrial 🗆	Stock 🗆	Other 🗆	
5.	LITHOL	OGIC LO)G			8. WEI	LL CONSTRUCTI	ON	
		Water	1	1	Thick-	Diameter hole			
Materi		Strata	From	То	ness	Casing record	***************************************	***************************************	
Clay - silty	7		110	116	6	Weight per foot		Thickness	
Sand - fine		ļ	116	125	9	Diameter	From	То	
						inches			
						- <u>u</u>	fec	1 1	
-					<u> </u>	inches	fe		
						inches	fe		
						1	Afee		
						Surface seal: Yes	No 🗆 Type		
						Depth of seal	- 7 X	feet	
						Gravel packed: Yes	1/1/0		
**************************************						Gravel packed from	feet	tofeet	
			31			ע אוון ו	~ 4		
	· · · · · · · · · · · · · · · · · · ·					Perforations: Type perforation	AVA		
						Size perforation	Y DY	······	
						From /	///	feet	
						From	* /	feet	
						From			
						From	feet to	feet	
						From	feet to	feet	
						9.	WATER LEVEL		
				· · · · · · · · · · · · · · · · · · ·		T		feet below land surface	
<u> </u>						- ()		F.3.1.	
							2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	***************************************	
							ERS CERTIFICA		
Date started		***************************************	***************************************		, 19	This well was drilled un the best of my knowled		and the report is true to	
Date completed		***********		***************************************	, 19	1	· ·	ing the second season of the season of the second season of the season o	
						Name			
1.	WELL T	EST DA	TA 🦂	gillar.		Address	Contractor		
Pump RPM	G.P.M.	Draw	Down	After Hour	s Pump		Contractor		
1.5	en en en					Nevada contractor's licer		생활을 하고 있었다. 그렇게 하는 것 같아 하는 것 같아.	
						Nevada contractor's drill	lers number	**********************************	
						1			
<u> </u>						Nevada driller's license n	umber	Actual Driller	
	BAILI	ER TEST				Signed			
G.P.M	D	raw down	ıf	eet	hours	Signed	Contractor		
G.P.M	D	raw down	1f	eet	hours				
G.P.M	D	raw down	1f	eet	hours		***************************************	***************************************	

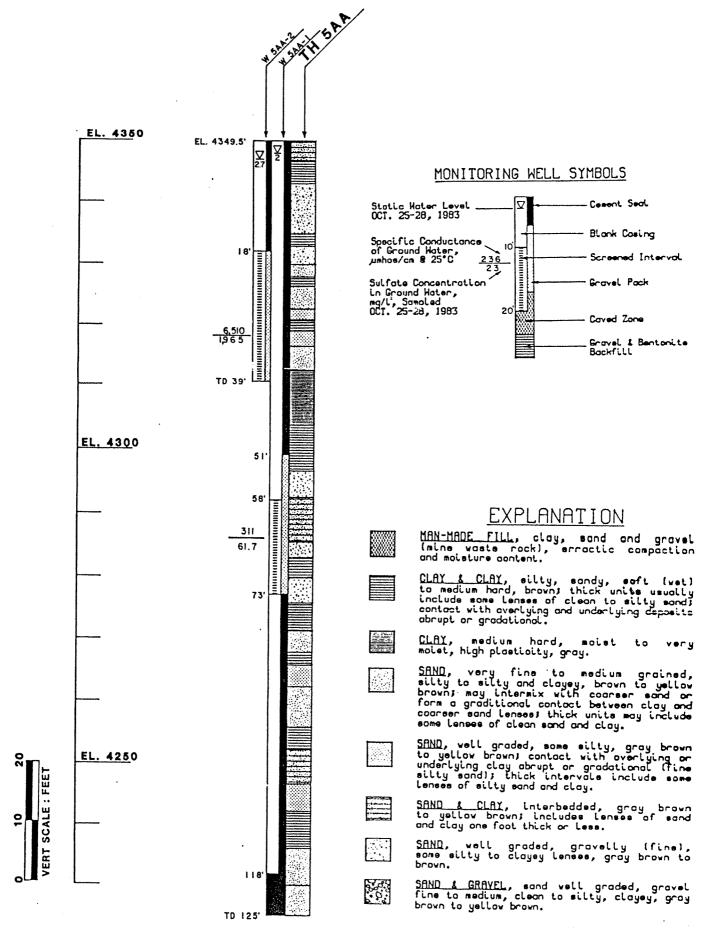
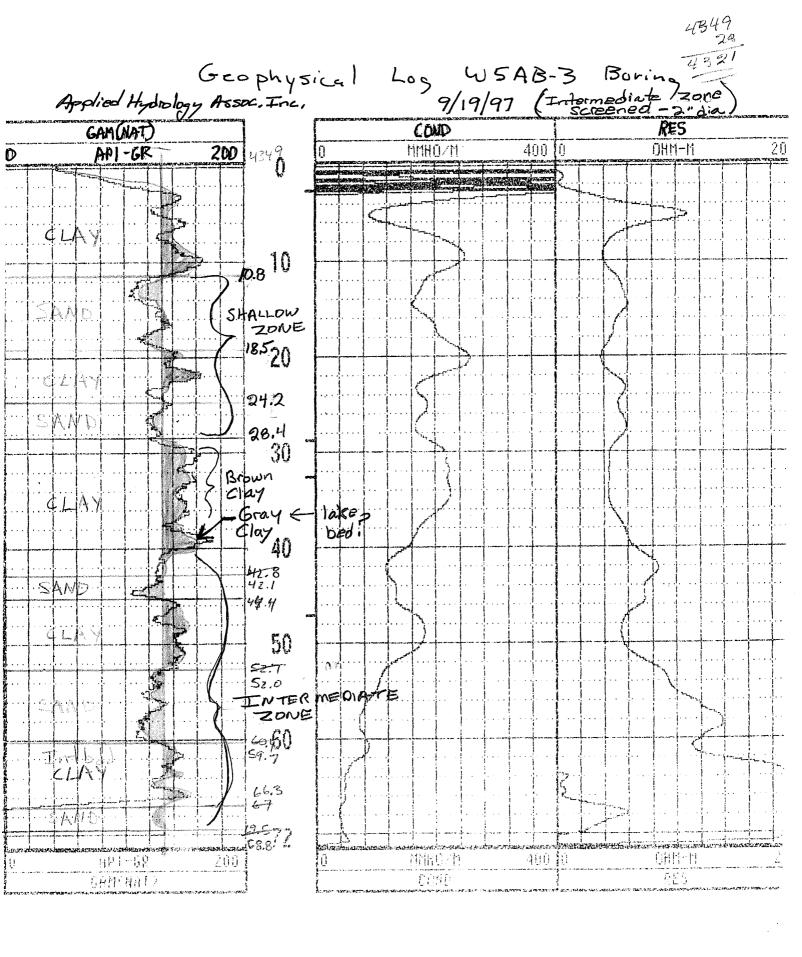


Figure 6 Well Completion Details and Lithologic Log for W5AA Well Site

FIGURE MONITORING WELL W5AB-3 COMPLETION DIAGRAM PROJECT: YERINGTON WELL TYPE: MONITORING DATE SURVEYED: DRILLING CO: SARGENT IRRIGATION DRILLING METHOD: **MUD ROTARY** TOP OF WELL LARRY RAPRAGER DRILLER: BORING STARTED: _ 9/15/97 CASING ELEV .: ESTIMATED @ 4351.7 ft. LOGGING WELL COMPLETED: 9/19/97 COMPANY: CENTURY GEOPHYS. WELL DEVELOPED: 9/19/97 **NORTHING:** 4821.7 **GEOLOGIST:** IAN PEARSON **EASTING:** LITHOLOGY LOG (FT) LOCKING COVER 2" PVC THREADED CAP X 6' CONCRETE 0. 5 NEAT CEMENT CLAY; silty, brn/gry w/ silty f. sand stringers 10.8 MILD STEEL CASING CONCRETE GROUT SAND; med. to cs., sub ang. to sub rounded, dominantly silty f. sand 14-18.5 15 2" SCH 40 PVC CASING 18.5 CLAY; silty, brn/gry w/ silty f. sand stringers 24.2 SAND; silty fine w/ 20% med to cs lithic sand 27.7 12.5" BOREHOLE **3**5 1" PLYWOOD 36.4 CLAY; silly/brn/gry w/ thin sand 39.0 stringers (f. to cs.) (t. gry clay approx 38 -42 CHIP BENTONITE 42.1 435/3 SAND; cs. lithic sub and to sub 45 2" DIA. 0.02" SLOT CLAY; silly, brn/gry w/ sand interpeds i, to cs. sand 52.0 WIRE-WRAP 6.5" BOREHOLE PVC SCREEN 8-20 SAND SAND/CLAY; (interbed) sand dominant f. to cs. sand FILTER PACK 59.7 BOTTOM OF 65 **SCREEN 66.2'** 1081.366.2 CENTRALIZER CLAY/SAND; (interbeds) clay dominant, silty brn/gry clay w/ up to 40% med. to cs. lithic sand TOTAL DEPTH OF BORING 69.7 BOTTOM OF SUMP CAVE-72.9 **Applied** NOTE: SAND PACK PUMPED INTO PLACE WITH WATER VIA TREMMIE PIPE. SURFACE CASING GROUTED Hydrology IN PLACE USING THE CASING METHOD Associates, Inc.



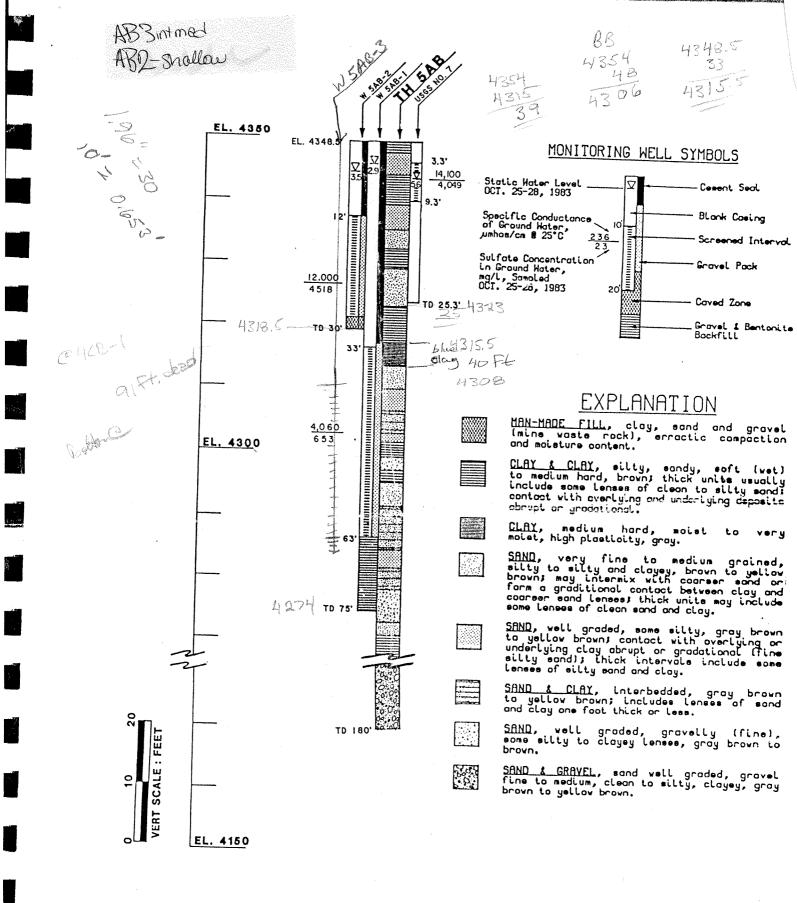
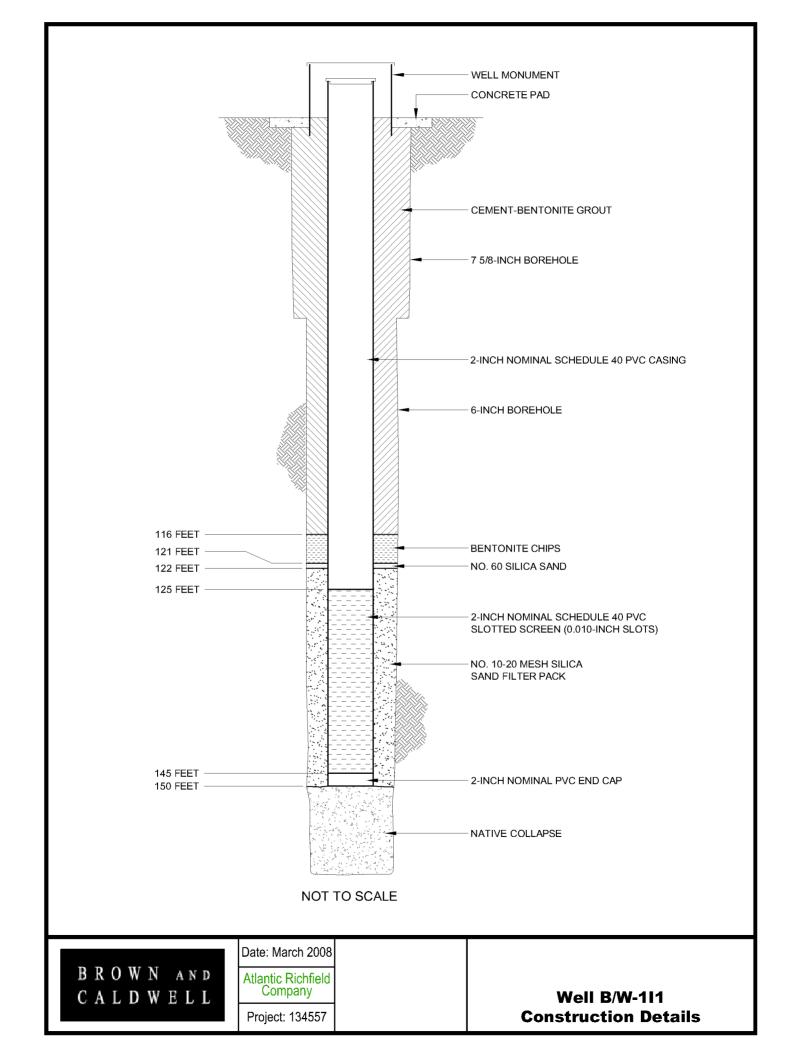
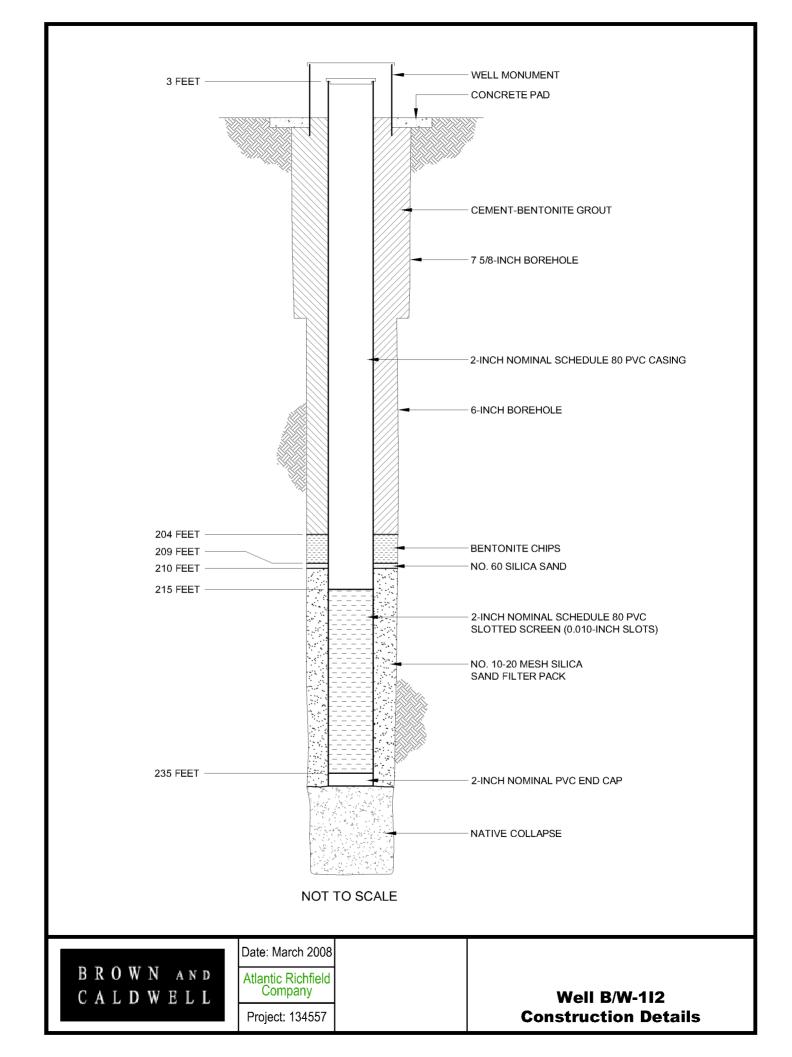
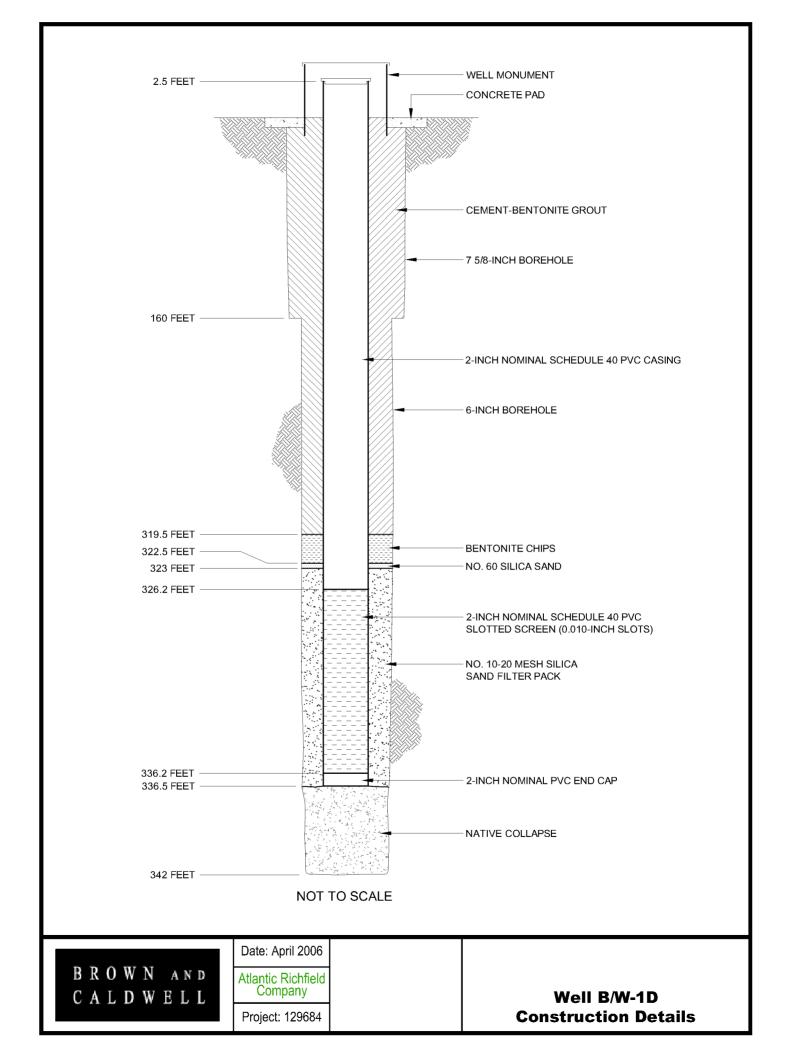


Figure 10 Well Completion Details and Lithologic Log for W5AB Well Site







BROWN AND CALDWELL

SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06

BORING LOG

B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 <u>1</u> of <u>27</u> ${f X}$ Monitoring Well Soil Boring Project Number: Sheet East: **327095.4** Boring Location: North of mine tailings, along Luzier Lane North: Elevation: 4354.8 feet amsl 1557616.9 Drilling Contractor: WDC Date Started: 10/20/05 11/5/05 Driller: **B. Zamow** Date Finished: Total Water Depth: Drilling Equipment: Gus Pech GP24-400RS, Diedrich Sonic Head 17' / 20.16' 342.0 Depth: (feet) (feet) Well Diameter Sampling Method: Core Barrel Borehole Diameter: 6" 2.5-inch PVC and Material: Screened Interval Drilling Method: Sonic, utilized 6" and 7-5/8" casing and a 4.5" core b 326.2-336.2 ft., bottom at 336.5 ft. nnelWell Depth: Well Seal: Bentontite and Cement Filter Material: #10-20 Silica Sand Slot Size: **0.020''** Logged By: C. Gardner Swabbed, bailed, pumped Development Method: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No Lithology Sample Description Remarks Well SILTY SAND (0-2 feet) Descriptions of drilled cuttings based Dry to moist, medium dense, no odor. on ASTM Method D-2488 (the Primarily medium to fine sand with ~5% gravel to ~8 mm visual-manual procedure), grain-size and ~15% silt and clay. The sand is subangular to determinations and nomenclature subrounded, the gravel is subangular. The fines are based on the Unified Soil Classification nonplastic, brown, and react strongly to HCl. System. Munsell colors described wet. CLAYEY SAND (2-4 feet) Horizontal survey data is expressed in Dry to moist, medium dense, no odor. the Nevada State Plane system. Primarily medium to fine sand with trace coarse sand to ~ 3 Nevada West zone, in feet. mm and ~25% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and react strongly to HCl. Sharp contacts indicated by solid lines, gradational contacts indicated by dashed line. **CLAYEY SAND** (4-5 feet) Utilized 7-5/8" casing to ~160 feet. Dry to moist, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~20% silt and All depths are below land surface clay. The sand is subangular to subrounded. The fines have 4350 unless stated otherwise. medium plasticity and toughness, are brown, and do not react 5 SP POORLY-GRADED SAND (5-11 feet) WELL DESIGN for B/W-1D: Dry to moist, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~20% silt and Screened Interval: 326.2-336.2 feet. clay. The sand is subangular to subrounded. The fines are Bottom of sump: 336.5 feet. nonplastic, brown, and do not react to HCl. Cement Grout: 0-319.5 feet. Bentonite Chips: 319.5-322.5 feet. Filter Pack: #60 Sand 322.5-323 feet, #10-20 Sand 323-336.5 feet. Native Collapse: 336.5-342 feet. Top of PVC Elevation: 4,357.32 feet, amsl. PVC Stick-up: 2.5 feet above land surface.

BROWN AND CALDWELL

BORING LOG

B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 2 of 27 \mathbf{X} Monitoring Well Soil Boring Sheet Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well WELL-GRADED SAND with GRAVEL (11-14 feet) Dry to moist, loose, no odor. Primarily coarse to fine sand with ~15% gravel to ~15 mm and ~5% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. **SILTY SAND** (14-15.5 feet) Dry to moist, medium dense, no odor. Primarily medium to fine sand with ~15% coarse sand to ~5 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines have low plasticity and toughness, are 4340 15 brown, and do not react to HCl. SM | SILTY SAND (15.5-16.25 feet) Dry to moist, medium dense, no odor. Primarily medium to coarse sand with ~5% gravel to ~10 mm and ~15% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl **SILTY SAND** (15.5-16.25 feet) Dry to moist, medium dense, no odor. Primarily medium to coarse sand with ~5% gravel to ~10 mm and ~15% silt and clay. The sand and gravel is subangular to SM subrounded. The fines are nonplastic, brown, and do not SC react to HCl. **SILTY SAND** (17.25-17.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to ~8 mm SM and ~15% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl <u>CLAYEY SAND</u> (17.5-18.25 feet) SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Moist, medium dense, no odor. SM Primarily fine sand (<1/2 mm) with $\sim35\%$ silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and do not react to HCl. 4335 **SILTY SAND** (18.25-19 feet) 20 Saturated, medium dense, no odor. Primarily medium to fine sand with ~10% gravel to ~20 mm and ~15% silt and clay. The sand and gravel is subangular to SW subrounded. The fines are nonplastic, brown, and do not react to HCl WELL-GRADED SAND with SILT (19-20.5 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~8 mm and ~10% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl WELL-GRADED SAND (20.5-21.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~10% coarse sand to ~3 mm and ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not eact to HCl

BORING LOG

B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 3 of 27 Monitoring Well Sheet Soil Boring Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well WELL-GRADED SAND with SILT (21.5-22 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~8 mm and ~10% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl.
CLAYEY SAND (22-23 feet) Moist, medium dense, no odor. Primarily medium to fine sand with ~5% coarse sand to ~3 4330 mm and ~35% silt and clay. The sand is subangular to 25 subrounded. The fines have medium plasticity and toughness are brown, and do not react to HCl SILTY SAND (23-23.75 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace gravel to ~8 mm and ~20% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. SM | SILTY SAND (23.75-24.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. WELL-GRADED SAND with SILT (24.5-24.75 feet) Saturated, medium dense, no odor. Primarily fine to medium sand with ~10% coarse sand to ~3 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. **SILTY SAND** (24.75-25 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl SILTY SAND (25-26 feet) Saturated, medium dense, no odor. SP-Primarily medium sand with ~5% gravel to ~8 mm and SM ~15% silt and clay. The sand and gravel is subangular to 33 Ft. 30 subrounded. The fines are nonplastic, brown, and do not react to HCl. 28 **CLAYEY SAND** (26-26.25 feet) (e) Saturated, medium dense, no odor. B/W-1 Primarily medium to fine sand (<1/2 mm) with ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not reach to HCl. WELL-GRADED SAND with SILT (26.25-27.5 feet) Saturated, medium dense, no odor. Primarily fine to medium sand with trace coarse sand to ~3 YERINGTON.GPJ BRN&CALD.GDT 1/31/06 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not **CLAYEY SAND** (27.5-28.25 feet) Dry to moist, dense, no odor. Primarily medium to fine sand to 1/2 mm with ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl **WELL-GRADED SAND** (28.25-29.75 feet) Saturated, loose, no odor. Primarily coarse to medium sand with trace gravel to ~8 mm and trace silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not 4320 react to HCl SONIC METHOD LOG POORLY-GRADED SAND with SILT (29.75-31.5 feet) 35 Saturated, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl.

POORLY-GRADED SAND with SILT (31.5-34 feet)

BORING LOG

B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 **4** of **27** Monitoring Well Sheet Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Saturated, medium dense, no odor. Primarily medium to fine sand with trace gravel to ~3 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl.

CLAYEY SAND (34-35 feet) Moist, medium dense, no odor. Primarily medium to fine sand with ~10% coarse sand to ~3 mm and ~25% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl. WELL-GRADED SAND (35-36.5 feet) Saturated, medium dense, no odor. Primarily medium sand with trace gravel to ~8 mm and ~5% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. CLAYEY SAND (36.5-37 feet) Moist to saturated, medium dense, no odor. 4315 Primarily medium to fine sand with ~5% coarse sand to ~4 mm and ~40% silt and clay. The sand is subangular to 40 subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl. WELL-GRADED SAND (37-39.25 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with trace gravel to ~20 mm and ~5% silt and clay. The sand is subangular to subrounded, the gravel is subrounded. The fines are nonplastic, brown, and do not react to HCl CLAYEY SAND (39.25-39.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~40% silt and clay. The sand is subangular to subrounded. The fines have SW-medium plasticity and toughness, are brown, and do not react SM to HCl. **CLAYEY SAND** (39.5-42.25 feet) Dry to moist, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not reach SC to HCl WELL-GRADED SAND with SILT (42.25-43.5 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~5% gravel to ~8 mm and ~10% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not 4310 react to HCl. CLAYEY SAND (43.5-44.75 feet) CL 45 Saturated, medium dense, no odor. 1/31/06 Primarily medium to fine sand to ~1 mm with ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT to HCl. LEAN CLAY with SAND (44.75-46 feet) Dry to moist, firm, no odor. Primarily silt and clay with ~20% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are grayish brown (10YR 5/2), and do not react to HCl. Some black organic streaks and some reddish brown iron oxide streaks. **SILTY SAND** (46-47.5 feet) Saturated, medium dense, no odor. Primarily fine sand (<1/2 mm) with $\sim25\%$ silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. **CLAYEY SAND** (47.5-48.5 feet) Dry to moist, dense, no odor. SC Primarily coarse to fine sand to ~3 mm with ~35% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react

BORING LOG

Project Name:			Yerington Groundwater Investigation				Well Number: B/W-1				
Soil Boring			Monitoring Well X Project Number:				121	243.021	Sheet <u>5</u> of _	<u>27</u>	
Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Sample No.	Sample	Tithology Tithology	Log		Remarks		
50—	3305	CL SW	to HCl. CLAYEY SAND (48.5-49.75 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with ~5% coarse sand to ~5 mm and ~25% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and do not react to HCl. SANDY LEAN CLAY (49.75-50.25 feet) Dry to moist, firm, no odor. Primarily silt and clay with ~30% medium to fine sand and trace coarse sand to ~3 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are light olive brown (2.5Y 5/3), and do not react to HCl. WELL-GRADED SAND with GRAVEL (50.25-53.5 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~15% gravel to ~10 mm and trace silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl.	B/W-1 @ 50 - 55 Ft.	@ 20 -						
55—	1300	CL	SANDY LEAN CLAY (53.5-55 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~50% medium to fine sand and trace coarse sand to ~3 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. WELL-GRADED SAND (55-56.5 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~5% gravel to ~15 mm and trace silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl.								
-	,	SW- SM	WELL-GRADED SAND with SILT (56.5-58 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~5% gravel to ~8 mm and ~10% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl.								
BRN&CALD.GDT 1/31/06	4295	SW	WELL-GRADED SAND with GRAVEL (58-60 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~15% gravel to ~15 mm and ~5% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl.								
SONIC METHOD LOG YERINGTON GPJ BRN&CALD GDT 1/31/06 09 11		SC	SILTY SAND (60-61 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~10 mm and ~15% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. CLAYEY SAND (61-63 feet) Moist, dense, no odor. Primarily medium to fine sand with ~5% coarse sand to ~3 mm and ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl.								

BORING LOG

B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 <u>6</u> of <u>27</u> \mathbf{X} Monitoring Well Sheet Soil Boring Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well **SILTY SAND** (63-63.75 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% coarse sand to ~3 mm and ~25% silt and clay. The sand is subangular to SM subrounded. The fines are have slight plasticity, low toughness, are brown, and do not react to HCl SILTY SAND (63.75-65 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to \sim 2 mm with \sim 15% silt and 4290 clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. 65 SC CLAYEY SAND (65-67 feet) Dry to moist, dense, no odor. Primarily medium to fine sand to ~2 mm with ~35% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl. 70 Ft. WELL-GRADED SAND with SILT (67-67.75 feet) SM Saturated, medium dense, no odor. 65 Primarily coarse to medium sand with $\sim 10\%$ gravel to ~ 15 mm and ~10% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, **@** B/W-1 SC and do not react to HCl. **CLAYEY SAND** (67.75-68.25 feet) Dry to moist, dense, no odor. Primarily medium to fine sand to ~2 mm with ~35% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react WELL-GRADED SAND (68.25-69.5 feet) Saturated, medium dense, no odor. SM Primarily coarse to medium sand with ~10% gravel to ~10 mm and ~5% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, 70 and do not react to HCl SILTY SAND (69.5-69.75 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace coarse sand to ~5 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 SANDY LEAN CLAY (69.75-70 feet) Dry to moist, stiff, no odor. Primarily silt and clay with ~40% fine sand (<1/2 mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and do not react to HCl.

SILTY SAND (70-73.25 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~15% silt and clay. The sand is subangular to CL subrounded. The fines are nonplastic, are brown, and do not react to HCl SANDY LEAN CLAY (73.25-74 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~50% medium to fine sand to ~2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and do not react to HCl.

WELL-GRADED SAND with SILT (74-77.5 feet) 4280 Saturated, medium dense, no odor. Primarily fine to medium sand with trace coarse sand to ~4

BORING LOG

B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 7 of 27 \mathbf{X} Monitoring Well Sheet Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well mm and ~10% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, light brown, and do not react to HCl. SM **SILTY SAND** (77.5-78.5 feet) Saturated, medium dense, no odor. Primarily fine sand (<1/2 mm) with $\sim25\%$ silt and clay. The sand is subangular to subrounded. The fines have low plasticity, are brown, and do not react to HCl. **CLAYEY SAND** (78.5-79.5 feet) Moist, dense, no odor. Primarily medium to fine sand to ~2 mm with ~25% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and do not react to HCl. SW WELL-GRADED SAND (79.5-80 feet) Saturated, medium dense, no odor. 80 Primarily medium to fine sand with ~5% coarse sand to ~5 mm and ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. LEAN CLAY with SAND (80-80.5 feet) Dry to moist, hard, no odor. SC Primarily silt and clay with ~20% fine to medium sand to ~2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and do not react to HCl. WELL-GRADED SAND with SILT (80.5-81 feet) Saturated, medium dense, no odor. Primarily fine to medium sand with trace coarse sand to ~3 mm and ~10% silt and clay. The sand is angular to subrounded. The fines are nonplastic, brown, and do not react to HCl. <u>CLAYEY SAND</u> (81-82 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with trace coarse sand to ~5 SW- mm and ~25% silt and clay. The sand is subangular to SM subrounded. The fines have medium plasticity, low toughness, are brown, and do not react to HCl.

WELL-GRADED SAND (82-83.25 feet) Saturated, medium dense, no odor. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Primarily medium to fine sand with ~5% gravel to ~10 mm and ~5% silt and clay. The sand is subangular to 4270 subrounded, the gravel is subangular. The fines are 85 nonplastic, brown, and do not react to HCl. **CLAYEY SAND** (83.25-83.5 feet) Dry to moist, dense, no odor. SM Primarily medium to fine sand with trace coarse sand to ~5 mm and ~25% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and do not react to HCl.

WELL-GRADED SAND with SILT (83.5-85.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to ~10 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and do not react to HCl **SILTY SAND** (85.5-86 feet) Moist, dense, no odor. Primarily medium to fine sand to ~2 mm with ~15% silt and SM clay. The sand is subangular to subrounded. The fines are slightly plastic, are brown, and do not react to HCl. WELL-GRADED SAND with SILT (86-88 feet)

BORING LOG

B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 **8** of **27** Monitoring Well Soil Boring Sheet Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Saturated, medium dense, no odor. Primarily medium to fine sand with ~10% gravel to ~10 mm and ~10% silt and clay. The sand and gravel is subangular to 87 - 92 Ft. subrounded. The fines are nonplastic, brown, and do not react to HCl SILTY SAND (88-90 feet) (9) Dry to moist, dense, no odor. 4265 Primarily medium to fine sand with ~10% coarse sand to ~4 90 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines are slightly plastic, are brown, and do not react to HCl WELL-GRADED SAND with SILT (90-92 feet) Saturated, medium dense, no odor. Primarily fine to medium to ~2 mm with ~10% silt and clay. The sand is angular to subrounded. The fines are nonplastic, brown, and do not react to HCl. WELL-GRADED SAND (92-93.75 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to ~10 mm and ~5% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not SW-SM Saturated, medium dense, no odor. (93.75-94.75 feet) Primarily medium to fine sand with ~5% gravel to ~10 mm and ~10% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not 4260 SC <u>CLAYEY SAND</u> (94.75-95.5 feet) 95 Dry to moist, dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl WELL-GRADED SAND with (95.5-99 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~15% gravel to ~12 mm and ~5% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. YERINGTON.GPJ BRN&CALD.GDT 1/31/06 **SILTY SAND** (99-99.5 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~8 mm and ~15% silt and clay. The sand and gravel is subangular to 4255 subrounded. The fines are nonplastic, brown, and do not react to HCl WELL-GRADED SAND (99.5-100.5 feet) SONIC METHOD LOG Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to ~10 mm and ~5% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. **SILTY SAND** (100.5-101.5 feet)

BORING LOG

B/W-1 **Yerington Groundwater Investigation** Project Name: Well Number: \mathbf{X} 121243.021 9 of 27 Monitoring Well Sheet Soil Boring Project Number: USCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Saturated, medium dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~8 mm and ~15% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl.

CLAYEY SAND (101.5-114 feet) Moist, dense, no odor. Primarily medium to fine sand to ~2 mm with ~35% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, medium to low toughness, are brown, and do not react to HCl. Some interbedded saturated silty sand in upper foot of interval and in the lower 3-feet of the interval. Some black organic streaks at ~105 and between ~109 and 110 feet. Some reddish brown iron oxide streaks between ~105 and 107.5 feet, ~108 to 109 feet, and ~110 to 111.5 <u>425</u>0 105 4245 110-SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 WELL-GRADED SAND (114-116 feet) Saturated, medium dense, no odor. Primarily medium sand with ~10% coarse sand to ~4 mm

BORING LOG

B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>10</u> of <u>27</u> ${f X}$ Soil Boring Monitoring Well Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 4240 and ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not 115 react to HCl. SM | SILTY SAND (116-117.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~25% silt and clay. The sand is subangular to subrounded. The fines are slightly plastic, are brown, and do not react to HCl. <u>CLAYEY SAND</u> (117.5-118.5 feet) Dry to moist, dense, no odor. Primarily medium to fine sand to ~2 mm with ~35% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, medium to low toughness, are brown, and do not react to HCl. Some black organic streaks.

POORLY-GRADED SAND (118.5-122.5 feet) SP Saturated, medium dense, no odor. Primarily medium sand to ~2 mm with ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. 4235 120 @ 120 - 125 WELL-GRADED SAND (122.5-125 feet) Saturated, medium dense, no odor. B/W-1 Primarily medium sand with trace coarse sand to ~4 mm and trace silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. BRN&CALD.GDT 1/31/06 4230 25 WELL-GRADED SAND with SILT (125-126.5 feet) SONIC METHOD LOG YERINGTON.GPJ Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to ~10 mm and ~10% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. CL **SANDY LEAN CLAY** (126.5-127.5 feet) Dry to moist, stiff, no odor. Primarily silt and clay with ~50% fine sand (<1/2 mm). The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown (10YR 5/3), and do not react to HCl.

BORING LOG

B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>11</u> of <u>27</u> ${f X}$ Monitoring Well Soil Boring Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SM POORLY-GRADED SAND with SILT (127.5-129 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. WELL-GRADED SAND (129-132 feet) Saturated, medium dense, no odor. Primarily medium sand with ~5% gravel to ~8 mm and ~5% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not 130 react to HCL **CLAYEY SAND** (132-132.5 feet) Moist to saturated, dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm with ~20% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and do not react to HCl. Some reddish brown iron oxide streaks. SILTY SAND with GRAVEL (132.5-133 feet) Saturated, medium dense, no odor. Primarily coarse to fine sand with ~15% gravel to ~8 mm and ~15% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl CLAYEY SAND (133-135 feet) Dry to moist, dense, no odor. 4220 Primarily fine sand with trace medium sand to ~1 mm with 135 ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl. Some reddish brown iron oxide streaks WELL-GRADED SAND (135-137 feet) Saturated, medium dense, no odor. Primarily medium sand with ~10% coarse sand to ~5 mm and ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 SM **SILTY SAND** (137-138.25 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~2 mm with ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. CL **LEAN CLAY with SAND** (138.25-140.5 feet) Dry to moist, hard, no odor. Primarily silt and clay with $\sim 20\%$ fine sand (<1/2 mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and do not react to HCl. Some reddish brown iron oxide and black organic streaks. Some interbedded clayey sand, 0.1 to 0.3 feet thick. 4215 140 WELL-GRADED SAND with SILT (140.5-141.5 feet)

BORING LOG

B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>12</u> of <u>27</u> Monitoring Well Soil Boring Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SM Saturated, medium dense, no odor. Primarily medium sand with trace gravel to ~8 mm and ~10% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not SP react to HCl POORLY-GRADED SAND (141.5-142.5 feet) @ 140 - 145 Ft Saturated, medium dense, no odor. Primarily medium sand to ~2 mm with ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. WELL-GRADED SAND with SILT (142.5-144 feet) Saturated, medium dense, no odor. B/W-1 Primarily medium to fine sand with trace coarse sand to ~3 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. CL LEAN CLAY with SAND (144-145 feet) Dry to moist, hard, no odor. Primarily silt and clay with $\sim 20\%$ fine sand (<1/2 mm). The sand is subangular to subrounded. The fines have medium 4210 plasticity and toughness, are yellowish brown (10YR 5/4), and do not react to HCl. Some reddish brown iron oxide 145 SW streaks. <u>WELL-GRADED SAND</u> (145-145.5 feet) Saturated, medium dense, no odor. SC Primarily medium sand with trace coarse sand to ~3 mm and 5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. **CLAYEY SAND** (145.5-146.5 feet) Dry to moist, dense, no odor. Primarily medium to fine sand to ~1 mm with ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl. Some reddish brown iron oxide streaks. **WELL-GRADED SAND** (146.5-148.5 feet) Saturated, medium dense, no odor. Primarily medium sand with trace coarse sand to ~3 mm and ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. WELL-GRADED SAND with SILT and GRAVEL (148.5-149.25 feet) SM Saturated, medium dense, no odor. Primarily coarse to medium sand with ~15% gravel to ~10 mm and ~10% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, 4205 and do not react to HCl 1/31/06 **CLAYEY SAND** (149.25-149.5 feet) 150 Moist, dense, no odor. Primarily medium to fine sand to ~1 mm with ~30% silt and SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and do not react to HCl. Some black organic streaks.

SILTY SAND (149.5-151 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~2 mm with ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl **SILTY SAND** (151-153.75 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to ~8 mm with ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. Some interbedded dry to moist clayey sand.

BORING LOG

B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>13</u> of <u>27</u> Monitoring Well Soil Boring Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SP POORLY-GRADED SAND (153.75-155 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~2 mm with ~5% silt and clay. The sand is subangular to subrounded. The fines are 4200 nonplastic, brown, and do not react to HCl. Some reddish brown iron oxide streaks between 152.5 to 153 feet. 155 **CLAYEY SAND** (155-155.5 feet) Moist, dense, no odor. Primarily medium to fine sand to ~1 mm with ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and do not react to HCl. Some black organic streaks. WELL-GRADED SAND (155.5-157 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with \sim 5% gravel to \sim 10 mm and ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not @ 155 - 160 Ft react to HCl.
WELL-GRADED SAND (157-158 feet) Saturated, medium dense, no odor. Primarily medium to coarse sand with ~10% gravel to ~8 mm and ~5% silt and clay. The sand and gravel is subangular to B/W-1 subrounded. The fines are nonplastic, brown, and do not CL react to HCl. **LEAN CLAY with SAND** (158-158.25 feet) SM Dry to moist, hard, no odor. Primarily silt and clay with ~20% medium to fine sand to ~2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are pale brown (10YR 6/3), and do not react to HCl. WELL-GRADED SAND with SILT (158.25-159.5 feet) 4195 Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to ~8 mm 160 and ~10% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. **CLAYEY SAND** (159.5-161.75 feet) Moist, dense, no odor. Primarily medium to fine sand to ~2 mm with ~20% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and do not react to HCl. SM **SILTY SAND** (161.75-163.75 feet) Moist, dense, no odor. Primarily medium to fine sand with $\sim 10\%$ coarse sand to ~ 3 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. YERINGTON.GPJ BRN&CALD.GDT 1/31/06 **CLAYEY SAND** (163.75-165 feet) Moist to saturated, dense, no odor. Primarily fine sand (<1/2 mm) with between ~30 and 40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and 4190 do not react to HCl. **CLAYEY SAND** (165-166.5 feet) SC Dry to moist, dense, no odor. Primarily medium to fine sand to $\sim 1/2$ mm with $\sim 35\%$ silt SONIC METHOD LOG and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl. Some black organic streaks. **SILTY SAND** (166.5-168 feet) Saturated, medium dense, no odor.

BORING LOG

B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>14</u> of <u>27</u> Soil Boring Monitoring Well Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily medium to fine sand to ~2 mm with ~15% silt and clay. The sand is subangular to subrounded. The fines have low plasticity, are brown, and do not react to HCl. POORLY-GRADED SAND (168-170 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to \sim 2 mm with \sim 5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. 4185 170 SC CLAYEY SAND (170-171 feet) Dry to moist, dense, no odor. Primarily medium to fine sand to ~1 mm with ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react WELL-GRADED SAND with SILT (171-174.5 feet) SM Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to ~8 mm and ~10% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not @ 170 - 175 react to HCl. B/W-1 **CLAYEY SAND** (174.5-176.5 feet) <u>41</u>80 Dry to moist, dense, no odor. Primarily medium to fine sand with trace coarse sand to ~4 175 mm with ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 **CLAYEY SAND** (176.5-178 feet) Moist, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~25% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and do not react to HCl. LEAN CLAY with SAND (178-178.5 feet) CL Dry to moist, hard, no odor. Primarily silt and clay with ~20% medium to fine sand to ~2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are pale brown (10YR 6/3), and do not react to HCl. Some black organic streaks **CLAYEY SAND** (178.5-179.5 feet) Dry to moist, dense, no odor. Primarily medium to fine sand to ~1 mm with ~40% silt and clay. The sand is subangular to subrounded. The fines have

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B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>15</u> of <u>27</u> \mathbf{X} Monitoring Well Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well medium plasticity and toughness, are brown, and do not react to HCl. Some iron oxide streaks. WELL-GRADED SAND with SILT (179.5-181 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~10% silt and clay. The sand is subangular to SC subrounded. The fines are nonplastic, brown, and do not react to HCl. <u>CLAYEY SAND</u> (181-181.5 feet) SC Dry to moist, dense, no odor. Primarily medium to fine sand to ~1 mm with ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl. Some iron oxide streaks. **CLAYEY SAND** (181-181.5 feet) Moist, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~20% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and do not react to HCl.
CLAYEY SAND (182.5-184 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with trace coarse sand to ~4 mm with ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness 4170 are brown, and do not react to HCl CLAYEY SAND (184-185 feet) 185 Dry to moist from ~184-184.5 feet, moist 184.5-185 feet, dense, no odor. Primarily medium to fine sand to ~1 mm with ~25% silt and SP clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and do not react to HCl. **CLAYEY SAND** (185-185.5 feet) Dry to moist, dense, no odor. Primarily medium to fine sand to ~1 mm with ~35% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl POORLY-GRADED SAND (185.5-187.5 feet) Saturated, medium dense, no odor. CL Primarily medium to fine sand to ~2 mm with ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, dark brown, and do not react to HCl. LEAN CLAY with SAND (187.5-189.5 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~20% medium to fine sand to \sim 1/2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are pale brown (10YR SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 6/3), and do not react to HCl. Some black organic streaks. CLAYEY SAND (189.5-191 feet) Dry to moist, dense, no odor. SC <u>4165</u> 190 Primarily medium to fine sand to ~1 mm with ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl. CL LEAN CLAY with SAND (191-192 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~20% medium to fine sand to ~1/2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are pale brown (10YR 6/3), and do not react to HCl. Some black organic streaks SC **CLAYEY SAND** (192-192.75 feet) Moist to saturated, dense, no odor. Primarily fine sand (<1/2 mm) with between ~30 and 40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and

BORING LOG

B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>16</u> of <u>27</u> \mathbf{X} Monitoring Well Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well do not react to HCl. WELL-GRADED SAND (192.75-195.5 feet) Saturated, medium dense, no odor. Primarily medium sand with ~5% gravel to ~8 mm and ~5% silt and clay. The sand and gravel is subangular to @ 192 - 197 Ft subrounded. The fines are nonplastic, brown, and do not react to HCl. 4160 B/W-1 195 WELL-GRADED SAND (195.5-197 feet) Saturated, medium dense, no odor. Primarily medium to coarse sand to ~3 mm and trace silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. **CLAYEY SAND** (197-197.5 feet) Moist, dense, no odor. Primarily fine sand (<1/2 mm) with $\sim25\%$ silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and do not react to HCl. **LEAN CLAY** (197.5-199 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~10% medium to fine sand to ~1/2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. Trace black organic streaks. **SANDY LEAN CLAY** (199-201.25 feet) CL Dry to moist, very hard, no odor. Primarily silt and clay with ~50% medium to fine sand to ~2 mm. The sand is subangular to subrounded. The fines have 4155 medium plasticity and toughness, are brown (10YR 5/3), and 200 do not react to HCl. Trace black organic streaks. SM | SILTY SAND (201.25-204 feet) Moist, dense, no odor. Primarily medium to fine sand to ~2 mm with ~20% silt and clay. The sand is subangular to subrounded. The fines have slight plasticity, are brown, and do not react to HCl. YERINGTON.GPJ BRN&CALD.GDT 1/31/06 SANDY LEAN CLAY (204-205.5 feet) Dry to moist, very hard, no odor. Primarily silt and clay with ~50% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have 4150 medium plasticity and toughness, are brown (10YR 5/3), and SONIC METHOD LOG 205 do not react to HCl. Some black organic streaks. CLAYEY SAND (205.5-207 feet) Moist, medium dense, no odor. Primarily medium to fine sand to ~2 mm with ~30% silt and

BORING LOG

B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>17</u> of <u>27</u> \mathbf{X} Monitoring Well Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl. CL LEAN CLAY with SAND (207-208.5 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~20% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and do not react to HCl. CL **LEAN CLAY** (208.5-209 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~10% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. **SILTY SAND** (209-210.5 feet) 4145 Dry to moist, dense, no odor. 210 Primarily coarse to fine sand with ~5% gravel to ~8 mm with ~20% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, are brown, and do not CL react to HCl SANDY LEAN CLAY (210.5-212 feet) Dry to moist, very hard, no odor. Primarily silt and clay with ~30% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/4), and do not react to HCl. CLAYEY SAND (212-212.5 feet) SC Dry to moist, very dense, no odor. Primarily medium to fine sand with trace coarse sand to ~4 mm with ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl **SILTY SAND** (212.5-213 feet) SM Dry to moist, very dense, no odor. Primarily medium to fine sand with trace gravel to ~8 mm and ~20% silt and clay. The sand and gravel is subangular to subrounded. The fines have low plasticity and toughness, are brown, and do not react to HCl. WELL-GRADED SAND with SILT (213-215 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~2 mm with ~10% silt and 4140 clay. The sand is subangular to subrounded. The fines are 218 nonplastic, brown, and do not react to HCl. SC **CLAYEY SAND** (215-217.5 feet) SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Moist, dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 **@** mm and ~20% silt and clay. The sand is subangular to B/W-1 subrounded. The fines have medium plasticity, low toughness, are brown, and do not react to HCl. **SILTY SAND** (217.5-219 feet) Moist, dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines have low plasticity and toughness, are brown, and do not react to HCl. SW- WELL-GRADED SAND with SILT (219-224 feet)

BORING LOG

B/W-1 **Yerington Groundwater Investigation** Project Name: Well Number: 121243.021 Sheet <u>18</u> of <u>27</u> ${f X}$ Monitoring Well Soil Boring Project Number: USCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SM Saturated, medium dense, no odor. Primarily medium to fine sand with trace gravel to ~8 mm and ~10% silt and clay. The sand and gravel is subangular to 4135 subrounded. The fines are nonplastic, brown, and do not 220 react to HCl. CLAYEY SAND (224-225 feet) Moist, dense, no odor. Primarily medium to fine sand with ~5% coarse sand to ~3 mm with ~20% silt and clay. The sand is subangular to 4130 subrounded. The fines have medium plasticity, low 225 (toughness, are brown, and do not react to HCl. WELL-GRADED SAND (225-230.5 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~8 mm and ~5% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 4125 WELL-GRADED SAND with SILT (230.5-231.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl.

CLAYEY SAND (231.5-234 feet) SC Dry to moist, moist, dense, no odor. Interbedded clayey sand and sandy clay, 1 to 25 cm thick.

BORING LOG

B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>19</u> of <u>27</u> Monitoring Well Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily fine sand (<1/2 mm) with between ~25% and 40% silt and clay, interbedded with dry to moist, very hard sandy clay with $\sim 30\%$ fines sand (<1/2 mm). The sand is subangular to subrounded. The fines have medium plasticity, medium to low toughness, are brown, and do not react to SANDY LEAN CLAY (234-235 feet) Dry to moist, very hard, no odor. Primarily silt and clay with ~40% fine sand and trace medium sand to ~2 mm. The sand is subangular to 4120 subrounded. The fines have medium plasticity and toughness, 235 hare brown (10YR 4/3), and do not react to HCl.
WELL-GRADED SAND (235-236 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~8 mm and ~5% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not CL react to HCl.
SANDY LEAN CLAY (236-237 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~30% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl.

WELL-GRADED SAND with SILT (237-239 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% coarse sand to ~4 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. WELL-GRADED SAND with SILT (239-239.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~2 mm with ~10% silt and CL clay. The sand is subangular to subrounded. The fines are 4115 nonplastic, brown, and do not react to HCl. 240-**LEAN CLAY** (239.5-240 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~10% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are grayish brown (10YR 5/2), and do not react to HCl. WELL-GRADED SAND with SILT (240-240.5 feet) Saturated, medium dense, no odor. METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Primarily medium to fine sand to ~2 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. POORLY-GRADED SAND (240.5-242.5 feet) 245 Saturated, medium dense, no odor. 240 -Primarily medium sand to ~2 mm with ~5% silt and clay. The sand is subangular to subrounded. The fines are 9 nonplastic, dark brown, and do not react to HCl B/W-1 WELL-GRADED SAND with SILT (242.5-243.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~2 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. CLAYEY SAND (243.5-244 feet) Moist, medium dense, no odor. Primarily medium to fine sand to ~2 mm with ~30% silt and clay. The sand is subangular to subrounded. The fines have SWmedium plasticity, low toughness, are brown, and do not 4110SM react to HCl WELL-GRADED SAND (244-244.5 feet) Saturated, medium dense, no odor.

BORING LOG

B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet **20** of **27** Monitoring Well Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily coarse to medium sand with ~10% gravel to ~8 mm and ~5% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. WELL-GRADED SAND with SILT (244.5-245 feet) Saturated, medium dense, no odor.

SM Primarily medium to fine sand to ~2 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. **LEAN CLAY with SAND** (245-246.5 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~20% medium to fine sand to \sim 1/2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. **SILTY SAND** (246.5-249 feet) Dry to moist, very dense, no odor. Primarily medium to fine sand (<1/2 mm) with ~25% silt and clay. The sand is subangular to subrounded. The fines have low plasticity and toughness, are brown, and do not react to SC HC1 **CLAYEY SAND** (249-251.5 feet) Moist, medium dense, no odor. 4105 Primarily medium to fine sand to ~2 mm with ~30% silt and clay. The sand is subangular to subrounded. The fines have 250 medium plasticity and toughness, are brown, and do not react to HCl. Some reddish brown iron oxide streaks. SANDY LEAN CLAY (251.5-252.5 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~40% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are light olive brown (2.5YR 5/3), and do not react to HCl. SILTY SAND (252.5-253 feet) Moist, dense, no odor. Primarily medium to fine sand with trace coarse sand to ~4 CL mm and ~20% silt and clay. The sand is subangular to subrounded. The fines have low plasticity and toughness, are brown, and do not react to HCl.

<u>LEAN CLAY with SAND</u> (253-254 feet) Dry to moist, hard, no odor. Interbedded lean clay with sand and sand with silt as described at 254 feet, 1 to 5 cm thick. Primarily silt and clay 1/31/06 with $\sim 20\%$ medium to fine sand to $\sim 1/2$ mm. The sand is 4100 subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT CL WELL-GRADED SAND with SILT (254-255 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~2 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. SANDY LEAN CLAY (255-258 feet) Dry to moist, hard, no odor. Interbedded sandy lean clay with sand with silt as described at 254 feet, 1 to 5 cm thick. Primarily silt and clay with ~50% medium to fine sand to ~2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to <u>CLAYEY SAND</u> (258-260.5 feet) Dry to moist, dense, no odor.

BORING LOG

B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet **21** of **27** Monitoring Well Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily medium to fine sand to ~2 mm with ~25% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react 4095 260 POORLY-GRADED SAND (260.5-261.5 feet) Saturated, medium dense, no odor. Primarily medium sand to ~2 mm with ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. CLAYEY SAND (261.5-263 feet) Dry to moist, dense, no odor. 265 Ft Primarily fine sand (<1/2 mm) with $\sim40\%$ silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl. 260 -@ WELL-GRADED SAND with SILT (263-264 feet) Saturated to moist, dense, no odor. SW-Primarily medium to fine sand to ~1 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. CLAYEY SAND (264-265 feet) SC Dry to moist, dense, no odor. Primarily medium to fine sand to ~2 mm with ~30% silt and clay. The sand is subangular to subrounded. The fines have 4090 medium plasticity, low toughness, are brown, and do not 265 react to HCl.
SANDY LEAN CLAY (265-266.75 feet) CL Dry to moist, hard, no odor. Primarily silt and clay with ~50% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. SM | SILTY SAND (266.75-267.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~20% silt and clay. The sand is subangular to subrounded. The fines are YERINGTON.GPJ BRN&CALD.GDT 1/31/06 nonplastic, brown, and do not react to HCl. **SANDY LEAN CLAY** (267.5-268.5 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~50% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and SWdo not react to HCl.

WELL-GRADED SAND with SILT (268.5-270 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand to ~4 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. 4085 CL LEAN CLAY with SAND (270-271.5 feet) SONIC METHOD LOG Dry to moist, hard, no odor. Primarily silt and clay with ~20% medium to fine sand to ~2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl.

BORING LOG

B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 <u>22</u> of <u>27</u> Monitoring Well Sheet _ Soil Boring Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SM **SILTY SAND** (271.5-273 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. SANDY LEAN CLAY (273-275 feet) CL Dry to moist, stiff, no odor. Primarily silt and clay with $\sim 35\%$ fine sand (<1/2 mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. Trace reddish brown iron oxide. 4080 275 WELL-GRADED SAND with SILT (275-277.25 feet) Saturated, medium dense, no odor. Primarily fine to medium sand with ~10% coarse sand to ~5 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. **CLAYEY SAND** (277.25-278 feet) Moist, dense, no odor. Primarily medium to fine sand to ~1 mm with ~35% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react SILTY SAND (278-279 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~15% silt and clay. The sand is subangular to subrounded. The fines are SC nonplastic, brown, and do not react to HCl. CLAYEY SAND (279-279.5 feet) CL Dry to moist, dense, no odor. 4075 Primarily medium to fine sand to ~1 mm with ~35% silt and clay. The sand is subangular to subrounded. The fines have 280 medium plasticity and toughness, are brown, and do not react to HCl SANDY LEAN CLAY (279.5-280 feet) SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Dry to moist, hard, no odor. Primarily silt and clay with ~50% fine sand (<1/2 mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. **CLAYEY SAND** (280-280.5 feet) Dry to moist, dense, no odor. Primarily medium to fine sand to ~1 mm with ~35% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react WELL-GRADED SAND with SILT (280.5-282 feet) Saturated, medium dense, no odor. Primarily medium sand with ~5% gravel to ~6 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and do not react to HCL WELL-GRADED SAND (282-290 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~8 mm and ~5% silt and clay. The sand and gravel is subangular to

BORING LOG

B/W-1 **Yerington Groundwater Investigation** Well Number: Project Name: \mathbf{X} 121243.021 23 of 27 Monitoring Well Soil Boring Sheet _ Project Number: SCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 4070 subrounded. The fines are nonplastic, brown, and do not react to HCl. 285 B/W-1 4065 290 WELL-GRADED SAND (290-295.5 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~5% gravel to ~10 mm and ~5% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 4060 295 SM | SILTY SAND (295.5-297.5 feet) Saturated, medium dense, no odor.
Primarily medium to fine sand to ~1/2 mm with ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. SM **SILTY SAND** (297.5-298.5 feet)

BORING LOG

B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 **24** of **27** \mathbf{X} Monitoring Well Sheet _ Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Moist to saturated, medium dense, no odor. Primarily fine sand (<1/2 mm) with $\sim15\%$ silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. SC **CLAYEY SAND** (298.5-298.75 feet) Dry to moist, dense, no odor. Primarily fine sand (<1/2 mm) with $\sim40\%$ silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are grayish brown, and do not react **SILTY SAND** (298.75-300 feet) 4055 Saturated, medium dense, no odor. 300 SP Primarily medium to fine sand to ~1 mm with ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. POORLY-GRADED SAND (300-302 feet) Saturated, medium dense, no odor. Primarily medium sand to ~2 mm with ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. SM **SILTY SAND** (302-302.75 feet) Dry to moist, dense, no odor. Primarily medium to fine sand to ~2 mm with ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. SC **CLAYEY SAND** (302.75-303.25 feet) Moist, dense, no odor. Primarily fine sand (<1/2 mm) with $\sim25\%$ silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl. **LEAN CLAY** (303.25-303.5 feet) Dry to moist, hard, no odor. Primarily silt and clay with $\sim 10\%$ fine sand (<1/2 mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (7.5YR 5/3), and do not 4050 react to HCl. 305 **CLAYEY SAND** (303.5-303.75 feet) Moist, dense, no odor. Primarily fine sand (<1/2 mm) with $\sim25\%$ silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl. **SILTY SAND** (303.75-305 feet) Moist, very dense, no odor. Primarily fine sand with ~10% medium sand to ~1 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. **POORLY-GRADED SAND** (305-308.5 feet) SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 305 - 310 Ft Saturated, medium dense, no odor. Primarily medium to fine sand to ~2 mm with ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. **@** B/W-1 **SILTY SAND** (308.5-309 feet) Moist to saturated, medium dense, no odor. Primarily fine sand (<1/2 mm) with $\sim15\%$ silt and clay. The SP sand is subangular to subrounded. The fines have slight plasticity, are brown, and do not react to HCl. POORLY-GRADED SAND (309-310 feet) 4045 Saturated, medium dense, no odor. Primarily medium to fine sand to ~2 mm with ~5% silt and 310 clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. NO RECOVERY (310-313 feet) Hard drilling, likely fine-grained.

BORING LOG

B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 <u>25</u> of <u>27</u> Monitoring Well ${f X}$ Soil Boring Sheet _ Project Number: ISCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well CLAYEY SAND (313-316 feet) Dry to moist, very dense, no odor. Primarily fine sand (<1/2 mm) with $\sim35\%$ silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and do not react to HCl. 4040 315 SM **SILTY SAND** (316-318 feet) Moist, dense, no odor. Primarily fine sand (<1/2 mm) with $\sim15\%$ silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. CL **LEAN CLAY with SAND** (318-321 feet) Dry to moist, very hard, no odor. Primarily silt and clay with \sim 15% fine sand (< 1/2 mm). The sand is subangular to subrounded. The fines have medium to high plasticity, medium toughness, are yellowish brown (10YR 5/4), and do not react to HCl. Trace black organic streaks. 4035 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 320 SM **SILTY SAND** (321-321.5 feet) Moist, dense, no odor. Primarily fine sand (<1/2 mm) with ~15% silt and clay. The CL sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl.

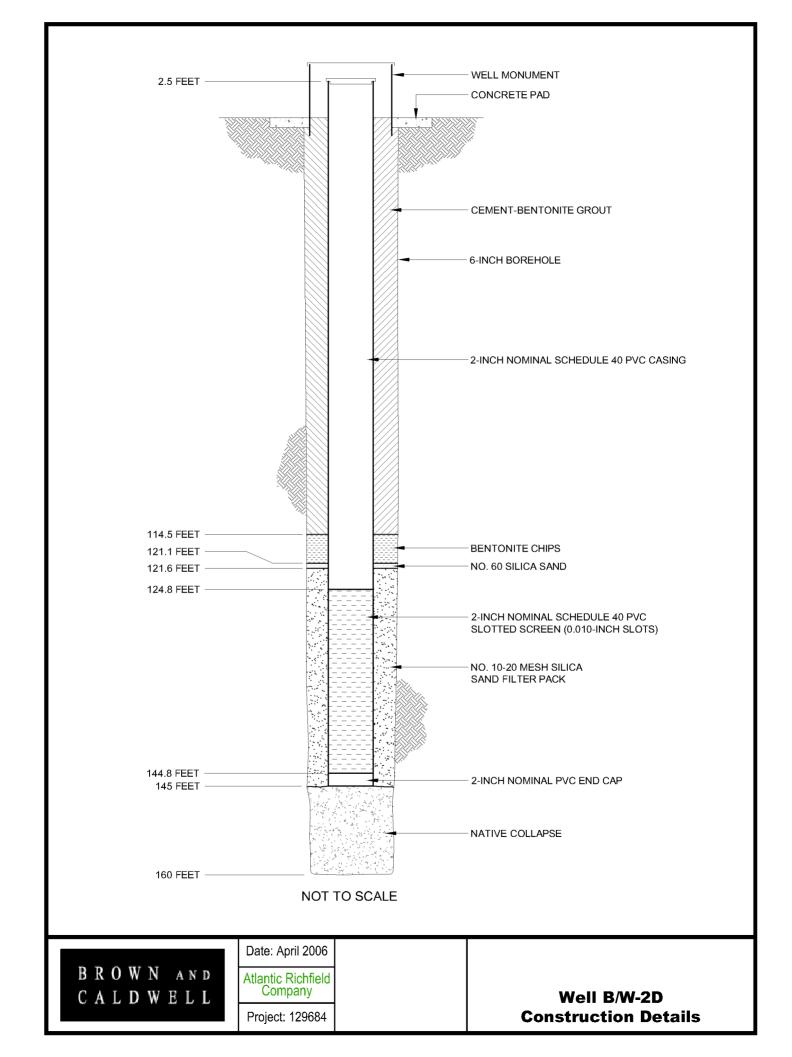
LEAN CLAY with SAND (321.5-322 feet) Dry to moist, very hard, no odor. Primarily silt and clay with $\sim 15\%$ fine sand (< 1/2 mm). The sand is subangular to subrounded. The fines have medium to high plasticity, medium toughness, are yellowish brown (10YR 5/4), and do not react to HCl. Trace black organic WELL-GRADED SAND (322-324.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3

BORING LOG

B/W-1 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>26</u> of <u>27</u> \mathbf{X} Soil Boring Monitoring Well Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well mm and ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. **CLAYEY SAND** (324.5-329 feet) SC 4030 Moist, dense, no odor. Primarily fine sand (<1/2 mm) with $\sim20\%$ silt and clay. The 325 sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and do not react to HCl. CLAYEY SAND (329-330 feet) Dry to moist, dense, no odor. Primarily fine sand (<1/2 mm) with $\sim40\%$ silt and clay. The sand is subangular to subrounded. The fines have medium 4025 plasticity, low toughness, are brown, and do not react to HCl. 330 WELL-GRADED SAND (330-332 feet) Saturated, medium dense, no odor. Primarily medium sand with trace gravel to ~8 mm and ~5% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. @ 330 - 335 Ft **CLAYEY SAND** (332-332.5 feet) Moist, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and do not B/W-1 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 react to HCl. WELL-GRADED SAND (332.5-335 feet) Saturated, medium dense, no odor. Primarily medium sand with trace gravel to ~8 mm and ~5% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. 4020 335 SM | SILTY SAND (335-336.5 feet) Moist, dense, no odor. Primarily medium to fine sand to ~2 mm with ~30% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. **CLAYEY SAND** (336.5-337 feet) Dry to moist, dense, no odor.

BORING LOG

B/W-1 **Yerington Groundwater Investigation** Project Name: Well Number: \mathbf{X} 121243.021 Sheet <u>27</u> of <u>27</u> Monitoring Well Soil Boring Project Number: JSCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily fine sand with trace medium sand to ~1 mm and ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and do not react to HCl SILTY SAND (337-339 feet) Moist, dense, no odor. Primarily medium to fine sand to ~1 mm with ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl. CLAYEY SAND (339-341.5 feet) Moist, dense to very dense, no odor. SC Primarily medium to fine sand to ~1 mm with ~20% silt and clay. The sand is subangular to subrounded. The fines have 4015 medium plasticity, low toughness, are brown, and do not 340 react to HCl. SM <u>CLAYEY SAND</u> (339-341.5 feet) Moist, dense to very dense, no odor. Primarily medium to fine sand to ~1 mm with ~20% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and do not react to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06



BORING LOG

								D/ VV - Z				
Soil I	Boring		Monitoring Well	Project N	umber	<u> </u>		121	243.021	Sheet 1 of 13 ast: 322542.6		
Boring Location: North of mine tailings, along Sunset Hills Dr.					Elevation: 4348.9 feet amsl East: 3225 4 North: 1557							
Drilling Contractor: WDC Driller: B. Zamow						Date Started: 9/7/05 Date Finished: 9/10/05						
Drilling Equipment: Gus Pech GP24-400RS, Diedrich Sonic Head						Total Water Depth: (feet) 160.0 (feet) 16' / 16.18'						
Sampling Method: Core Barrel Borehole Diameter: 6''						Well Diameter and Material: 2-inch PVC						
Drilling Method: Sonic, utilized 6" casing and a 4.5" core barrel						Screened Interval and Well Depth: 124.8-144.8 ft., bottom at 145.0 ft.						
Well Seal: Bentontite and Cement					Slot Size: 0.020" Filter Material: #10-20 Silica Sand							
Logged By: C. Gardner					Development Method: Swabbed, bailed, pumped							
	mpol					—	Graphic I	Log				
Depth (feet)	Elevation (feet)	Group Symbol	Description		Sample No.	ple	logy	П	Re	emarks		
Dept	Elevat	JSCS Gr			Sam	Sample	Lithology	Well				
		SC	CLAYEY SAND (0-1 feet) Dry, loose to medium dense, no odor.						Descriptions of drilled cuttings based on ASTM Method D-2488 (the			
-			Primarily medium to fine sand to ~2 mm will clay. The sand is subangular to subrounded	. The fines have	-				visual-manual procedur determinations and non	re), grain-size nenclature		
_			medium plasticity and toughness, are brown HCl from land surface to 1 foot, but react st 4 feet.	n, do not react to rongly from 1 to	-				based on the Unified So System. Munsell colors			
-					-				Horizontal survey data	is expressed in		
_					-				the Nevada State Plane system, Nevada West zone, in feet.			
-					-							
-					+				Sharp contacts indicated	d by solid lines,		
-					-				gradational contacts indicated by dashed line.			
_	4345	CM	SILTY SAND (4-7 feet)						All depths are below la	ad assurface		
<u> </u>		SIVI	Dry, loose, no odor. Primarily medium to fine sand with trace co	arse sand to ~3					unless stated otherwise.			
_			mm and ~15% silt and clay. The sand is su subrounded. The fines are nonplastic, are b	bangular to					\$			
5—			react to HCl.						WELL DESIGN for B/	W 2D:		
-					1				Screened Interval: 124.			
_					_				Bottom of sump: 145 fe	eet.		
_									Cement Grout: 0-114.5			
									Bentonite Chips: 114.5- Filter Pack: #60 Sand 1			
_		SW	WELL-GRADED SAND (7-10 feet) Dry, loose, no odor.						feet, #10-20 Sand 121.6 Native Collapse: 145-16	5-145 feet.		
_			Primarily medium to fine sand with trace comm with ~5% silt and clay. The sand is sul	earse sand to ~3	-		******					
_			subrounded. The fines are nonplastic, are breact to HCl.		4				Depth to Water Measur	ing Doint is		
_									Top of PVC Casing.			
	4340								Top of PVC Elevation: amsl.			
-					\dashv				PVC Stick-up: 2.5 feet surface.	above land		
-					-							

BORING LOG

B/W-2 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 2 of 13 ${f X}$ Soil Boring Monitoring Well Sheet Project Number: Graphic Log USCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SM **SILTY SAND** (10-13.5 feet) Dry, loose to medium dense, no odor. Primarily medium to fine sand to ~2 mm with ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. CLAYEY SAND (13.5-16 feet) Moist, dense, no odor. 4335 Primarily fine sand (<0.5 mm) with $\sim40\%$ silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl. 15 **SILTY SAND** (16-17.25 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~15% fine sand, ~5% fine gravel to ~7 mm, and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. WELL-GRADED SAND with SILT (17.25-18 feet) Saturated, loose, no odor. SW-SM Primarily coarse to medium sand with ~15% fine sand, ~5% fine gravel to ~8 mm, and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. LEAN CLAY (18-18.75 feet)
Dry to moist, hard, no odor. Primarily silt and clay with ~10% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 medium plasticity and toughness, are brown (7.5YR 4/3), and do not react to HCl.

POORLY-GRADED SAND with SILT (18.75-23.75 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to 2 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are 20 nonplastic, are brown, and do not react to HCl.

BORING LOG

B/W-2 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 3 of 13 ${f X}$ Monitoring Well Soil Boring Sheet Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 4325 SANDY LEAN CLAY (23.75-24.75 feet) Dry to moist, stiff, no odor. CL Primarily silt and clay with \sim 40% medium to fine sand and trace coarse sand to \sim 3 mm. The sand is subangular to subrounded. The fines have medium plasticity and Atoughness, are brown (10YR 4/3), and do not react to HCl. SILTY SAND (24.75-25 feet) 25 Saturated, loose, no odor. Primarily medium to fine sand with trace coarse sand to ~4 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not SANDY LEAN CLAY (25-26.5 feet) Moist, no odor. Primarily silt and clay with ~35% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness. Some black organic staining.

CLAYEY SAND (26.5-27 feet) Saturated, loose, no odor. Primarily medium to fine sand to ~1 mm with ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and low toughness, are brown, and do not react to HCl. WELL-GRADED SAND with SILT (27-27.25 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace coarse sand to ~4 4320 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl SANDY LEAN CLAY (27.25-30 feet) Moist, hard, no odor. Primarily silt and clay with ~30% medium to fine sand to ~1.5 mm. The sand is subangular to subrounded. The fines 30 have medium plasticity and toughness, are brown (10YR 4/3), and do not react to HCl. SILTY SAND (30-30.5 feet) SM Saturated, loose, no odor. Primarily medium to fine sand to ~1 mm with ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. SILTY SAND (30.5-33 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. YERINGTON.GPJ BRN&CALD.GDT 1/31/06 WELL-GRADED SAND with SILT (33-37 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are 4315 nonplastic, are brown, and do not react to HCl. SONIC METHOD LOG 35

BORING LOG

B/W-2 **Yerington Groundwater Investigation** Well Number: Project Name: \mathbf{X} 121243.021 4 of 13 Monitoring Well Soil Boring Sheet Project Number: JSCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well POORLY -GRADED SAND with SILT (37-41.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. 4310 40-**LEAN CLAY** (41.5-53.5 feet) CL Dry to moist, hard, no odor.
Primarily silt and clay with ~10% medium to fine sand (<1 mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (7.5YR 4/3), and do not react to HCl. 4305 45 -SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 4300

BORING LOG

B/W-2 **Yerington Groundwater Investigation** Project Name: Well Number: 121243.021 5 of 13 Monitoring Well ${f X}$ Sheet Soil Boring Project Number: JSCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 50 **SILTY SAND** (53.5-55 feet) 4295 Saturated, medium dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~15% silt and clay. The sand is subangular to 7 subrounded. The fines are nonplastic, are brown, and do not 52 react to HCl. (9) 55 SANDY LEAN CLAY (55-60 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~40% medium to fine sand to ~2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 4290 SM SILTY SAND (60-61.5 feet) Moist, medium dense, no odor. Primarily medium to fine sand to ~2 mm with ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. CL SANDY LEAN CLAY (61.5-64 feet) Moist, hard, no odor. Primarily silt and clay with ~40% medium to fine sand to ~2 mm. The sand is subangular to subrounded. The fines have

BORING LOG

B/W-2 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 6 of 13 \mathbf{X} Monitoring Well Soil Boring Sheet Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well medium plasticity and toughness, are brown (10YR 4/3), and do not react to HCl. 4285 SANDY LEAN CLAY (55-60 feet) Dry to moist, hard, no odor. CL Primarily silt and clay with ~35% medium to fine sand to ~2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are strong brown (7.5YR 65 4/6), and do not react to HCl. CLAYEY SAND (66.5-69 feet) Moist to saturated, medium dense, no odor. Primarily medium to fine sand with trace fine gravel to ~6 mm and ~40% silt and clay. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl. 4280 SM SILTY SAND (69-70 feet) Moist, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are grayish brown, and do not react to HCl. 70 SANDY LEAN CLAY (70-70.75 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~50% fine sand (<0.5 mm). The sand is subrounded. The fines have medium plasticity and low toughness, are dark grayish brown (10YR 4/2), and do SC not react to HCl **CLAYEY SAND** (70.75-71.25 feet) SC Dry to moist, dense, no odor. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Primarily fine sand (<0.5 mm) with ~40% silt and clay. The sand is subrounded. The fines have medium plasticity and low toughness, are brown, and do not react to HCl. CLAYEY SAND (70.75-71.25 feet)
Dry to moist, dense, no odor. Primarily fine sand (<0.5 mm) with ~40% silt and clay. The sand is subrounded. The fines have medium plasticity and low toughness, are brown, and do not react to HCl. 4275 **SILTY SAND** (74-74.75 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~10% fine gravel to ~10 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. **CLAYEY SAND** (74.75-75.25 feet)

BORING LOG

B/W-2 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 7 of 13 Monitoring Well Sheet Soil Boring Project Number: Graphic Log USCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well CL Dry to moist, no odor. Primarily fine sand (<0.5 mm) with ~40% silt and clay. The sand is subrounded. The fines have medium plasticity and low toughness, are brown, and do not react to HCl. LEAN CLAY with SAND (75.25-76.5 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~20% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. **CLAYEY SAND** (76.5-77.5 feet) Dry to moist, dense, no odor. Primarily medium to fine sand to 2 mm with ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl **SILTY SAND** (77.5-78.25 feet) Saturated, medium dense, no odor. <u>427</u>0 Primarily medium to fine sand with ~10% coarse sand to ~3 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl **SILTY SAND** (77.5-78.25 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace fine gravel to ~5 80 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl.

WELL-GRADED SAND with SILT (79.5-80 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace coarse sand to 3mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl SANDY LEAN CLAY (80-82 feet) Saturated, soft, no odor. Primarily silt and clay with ~40% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. SILTY SAND (82-82.5 feet) Saturated, medium dense, no odor. SM Primarily medium to fine sand with trace coarse sand to ~3 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not 4265 react to HCl. CLAYEY SAND (82.5-83 feet) Moist, dense, no odor. Primarily medium to fine sand to ~2 mm with ~35% silt and 1/31/06 clay. The sand is subangular to subrounded. The fines have medium plasticity and low toughness, are brown, and do not react to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 85 SILTY SAND (83-84 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl WELL-GRADED SAND with SILT (84-85 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~15% coarse sand, ~5% fine gravel to ~15 mm, and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. SILTY SAND (85-85.75 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl

BORING LOG

B/W-2 **Yerington Groundwater Investigation** Project Name: Well Number: 121243.021 **8** of **13** Monitoring Well ${f X}$ Sheet Soil Boring Project Number: ISCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well LEAN CLAY with SAND (85.75-95 feet) Dry to moist, stiff, no odor. 4260 Primarily silt and clay with ~25% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 4/3), and do not react to HCl. 90 4255 95 WELL-GRADED SAND (95-99 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace coarse sand to ~ 3 mm with ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. @ 95 - 100 Ft YERINGTON.GPJ BRN&CALD.GDT 1/31/06 4250 POORLY-GRADED SAND with SILT (99-101.25 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~2 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. SONIC METHOD LOG **SANDY LEAN CLAY** (101.25-103.5 feet)

BORING LOG

B/W-2 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 of <u>1</u>3 ${f X}$ Soil Boring Monitoring Well Sheet Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Dry to moist, hard, no odor. Primarily silt and clay with ~30% fine sand (<0.5 mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. **SILTY SAND** (103.5-104 feet) Saturated, dense, no odor. Primarily medium to fine sand with to ~1 mm with ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl SANDY LEAN CLAY (104-105 feet) Dry to moist, stiff, no odor. Primarily silt and clay with ~30% medium to fine sand to ~1 105 mm. The sand is subangular to subrounded. The fines have medium plasticity and low toughness, are brown (10YR 4/3), and do not react to HCl.
SILTY SAND (105-105.75 feet) Moist to saturated, medium dense, no odor. Primarily medium to fine sand with to ~1 mm with ~30% silt and clay. The sand is subangular to subrounded. The fines have low plasticity and toughness, are brown, and do not react to HCl. **LEAN CLAY with SAND** (105.75-106.5 feet) Moist, stiff, no odor. CL Primarily silt and clay with ~20% medium to fine sand to ~1.5 mm. The sand is subangular to subrounded. The fines have medium plasticity and low toughness, are olive brown (2.5Y 4/4), and do not react to HCl. **SILTY SAND** (106.5-107 feet) Dry to moist, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~30% silt and clay. The sand is subangular to subrounded. The fines have low plasticity and toughness, are brown, and do not react to 4240 **LEAN CLAY** (107-115.5 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~10% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are grayish brown (10YR 5/2), and do not react to HCl. 110-SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 4235

BORING LOG

B/W-2 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>10</u> of <u>13</u> ${f X}$ Soil Boring Monitoring Well Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 115 WELL-GRADED SAND (115.5-117 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace fine gravel to ~8 mm with ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. @ 115 - 120 Ft SANDY LEAN CLAY (117-120 feet) CL Dry to moist, firm to hard, no odor. Primarily silt and clay with ~35% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and B/W-2 do not react to HCl. 4230 120 **SILTY SAND** (120-121.75 feet) Dry to moist, medium dense, no odor. Primarily fine sand (<0.5 mm) with ~20% silt and clay. The sand is subangular to subrounded. The fines have low plasticity and toughness, are brown, and do not react to HCl. POORLY -GRADED SAND with SILT (121.75-123.25 feet) SP-Saturated, medium dense, no odor. Primarily medium to fine sand to ~2 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. SANDY LEAN CLAY (123.25-125 feet) Dry to moist, stiff to hard, no odor. Primarily silt and clay with ~35% medium to fine sand to 1 BRN&CALD.GDT 1/31/06 4225 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. SM **SILTY SAND** (125-129 feet) Dry to moist, medium dense, no odor. Primarily fine sand (<0.5 mm) with ~20% silt and clay. The SONIC METHOD LOG YERINGTON.GPJ sand is subangular to subrounded. The fines have low plasticity and toughness, are brown, and do not react to HCl.

BORING LOG

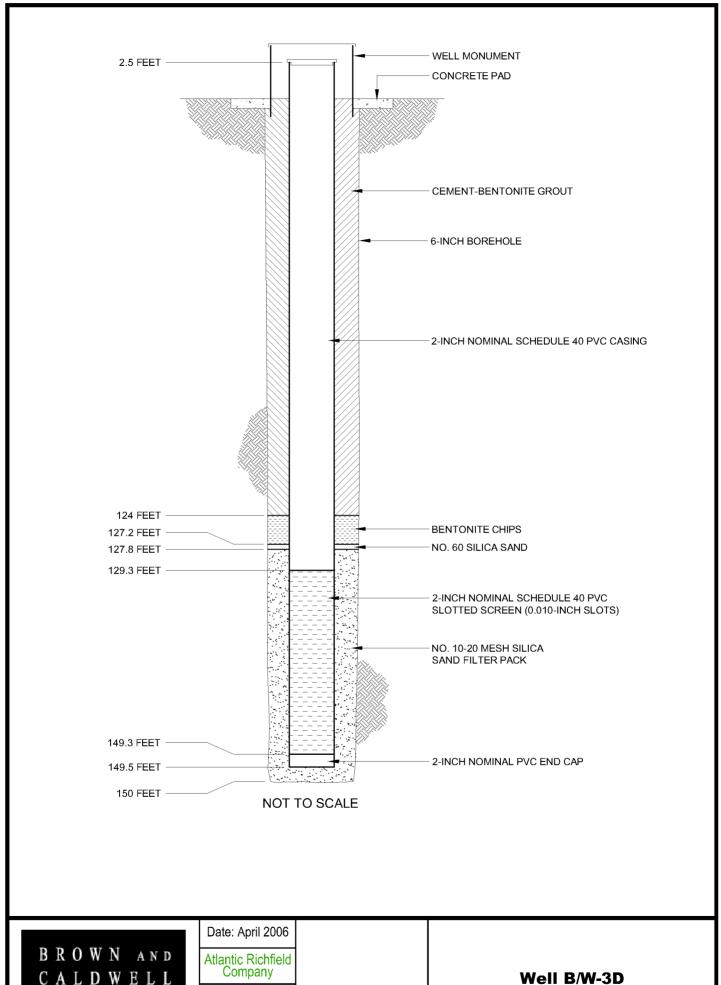
B/W-2 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>11</u> of <u>13</u> \mathbf{X} Soil Boring Monitoring Well Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 4220 WELL-GRADED SAND (129-134 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace fine gravel to ~8 mm with ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines 130 are nonplastic, are brown, and do not react to HCl. 4215 WELL-GRADED SAND (134-136 feet) Saturated, loose, no odor. Primarily medium to fine sand with ~10% fine gravel to ~8 mm with ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are 135 brown, and do not react to HCl. WELL-GRADED SAND (136-138 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace fine gravel to ~8 mm with ~5% silt and clay. The sand is subangular to SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 subrounded, the gravel is angular to subangular. The fines @ 135 - 140 Ft are nonplastic, are brown, and do not react to HCl. B/W-2 WELL-GRADED SAND (138-140 feet) Saturated, loose, no odor. Primarily medium to fine sand with ~10% fine gravel to ~8 mm with ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are 4210 brown, and do not react to HCl. 140 WELL-GRADED SAND (140-142.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace fine gravel to ~ 8 mm with ~5% silt and clay. The sand is subangular to

BORING LOG

B/W-2 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>12</u> of <u>13</u> \mathbf{X} Monitoring Well Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. **CLAYEY SAND** (142.5-144 feet) Dry to moist, dense, no odor. Primarily fine sand (<0.5 mm) with ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and low toughness, are brown (10YR 5/3), and do not react to HCl. 4205 SM SILTY SAND (144-146 feet) Moist, medium dense, no odor. Primarily fine sand (<0.5 mm) with $\sim20\%$ silt and clay. The sand is subangular to subrounded. The fines have low plasticity and toughness, are brown to reddish brown, and do 145 not react to HCl. POORLY-GRADED SAND with SILT (146-146.25 feet) Saturated, dense, no odor. SC Primarily medium to fine sand to ~1 mm with ~10% silt and SP- clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. **CLAYEY SAND** (146.25-146.5 feet) Moist, dense, no odor. Primarily fine sand (<0.5 mm) with ~30% silt and clay. The sand is subangular to subrounded. The fines have medium SC plasticity and medium to low toughness, are brown, and do not react to HCl. POORLY-GRADED SAND with SILT (146.5-147.75 feet) Saturated, dense, no odor. Primarily medium to fine sand to ~1 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. <u>CLAYEY SAND</u> (147.75-148.5 feet) Moist, dense, no odor. Primarily fine sand (<0.5 mm) with ~30% silt and clay. The sand is subangular to subrounded. The fines have medium CL plasticity and medium to low toughness, are brown, and do 1/31/06 not react to HCl 50 POORLY-GRADED SAND with SILT (148.5-148.75 feet) SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT Saturated, dense, no odor. Primarily medium to fine sand to ~1 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl LEAN CLAY with SAND (148.75-149 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~25% fine sand (<0.5 mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness, are grayish brown (10YR 5/2), and do not react to HCl. SANDY LEAN CLAY (149-149.75 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~45% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 4/3), and do not react to HCl <u>SANDY LEAN CLAY</u> (149.75-150.5 feet) SM Dry to moist, hard, no odor. Primarily silt and clay with ~35% fine sand (<0.5 mm). The

BORING LOG

B/W-2 **Yerington Groundwater Investigation** Project Name: Well Number: 121243.021 Sheet <u>13</u> of <u>13</u> ${f X}$ Soil Boring Monitoring Well Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. **SANDY LEAN CLAY** (150.5-152.75 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~45% medium to fine sand to ~1 155 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl CL **POORLY-GRADED SAND with SILT** (152.75-153 feet) Saturated, dense, no odor. Primarily medium to fine sand to ~1 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl WELL-GRADED SAND with SILT (153-155 feet) Saturated, dense, no odor. Primarily medium to fine sand to ~2 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl POORLY-GRADED SAND with SILT (155-155.5 feet) SC Saturated, dense, no odor. Primarily medium to fine sand to ~1 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. SANDY LEAN CLAY (155.5-157.5 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~40% medium to fine sand to ~1 4190 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. CLAYEY SAND (157.5-160 feet) Moist to saturated, dense, no odor. Primarily coarse to medium sand with $\sim 15\%$ fine sand, $\sim 5\%$ 160 fine gravel to ~8 mm, and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06



Project: 129684

Construction Details

BORING LOG

Proje	ct Nan	ne:	Yerington Groundwater In	vestigation			- Well l	Nun	nber:	<u>B/W·</u>	-3				
Soil I	Boring		Monitoring Well X	Project N	Number	r:			121	243.021		neet 1 of 12			
Boring Location: North of mine tailings, along Sunset Hills Dr.								Elevation: 4351.2 feet amsl East: 322334.8 North: 1561218.8							
Drilli	Drilling Contractor: WDC Driller: B. Zamow									Date Started: 8/27/05 Date Finished: 8/31/05					
Drilli	Drilling Equipment: Gus Pech GP24-400RS, Diedrich Sonic Head									Total Depth: (feet) 150.0 Water Depth: (feet) 22' / 21.72'					
Sampling Method: Core Barrel Borehole Diameter: 6''								Well Diameter and Material: 2-inch PVC							
Drilli	Drilling Method: Sonic, utilized 6" casing and a 4.5" core barrel									Screened Interval and Well Depth: 129.3-149.3 ft., bottom at 149.5 ft.					
Well Seal: Bentontite and Cement								Slot Size: 0.020" Filter Material: #10-20 Silica Sand							
Logged By: C. Gardner							Development Method: Swabbed, bailed, pumped								
	t)	mbol					Graph	ic I	Log	4					
Depth (feet)	Elevation (feet)	SCS Group Symbol	Description		Somula No	Sample No.	Sample Lithology	3	Well		Rema	rks			
	E	1													
		SM	SILTY SAND (0-1.5 feet) Dry, loose, no odor.							on ASTM N	s of drilled cutt Method D-2488	(the			
-			Primarily medium to fine sand with t mm and ~25% silt and clay. The sar subrounded. The fines have low plas	d is subangular to	1					determination	nal procedure), ons and nomen one Unified Soil C	clature			
-	4350		grayish brown, and do not react to He		-						insell colors des				
-		CL	SANDY LEAN CLAY (1.5-2.5 feet)	<u>,</u>	_						survey data is e				
_			Dry, hard, no odor. Primarily silt and clay with ~30% me	edium to fine sand to 1.5	4						State Plane sys st zone, in feet.	tem,			
_			mm. The sand is subangular to subro medium plasticity and toughness, are have a strong reaction to HCl.												
		CL	SANDY LEAN CLAY (2.5-6.5 feet Dry, hard, no odor.)											
			Primarily silt and clay with ~25% me mm. The sand is subangular to subro medium plasticity and toughness, are	ounded. The fines have						gradational	cts indicated by contacts indica	y solid lines, ted by			
_			have a strong reaction to HCl.	brown (101 K 4/3), and	1					dashed line.					
_					1					All depths a	are below land s	surface			
-					+										
5—					4										
_					1					//	SIGN for B/W-3				
										/Y	terval: 129.3-14 ump: 149.5 fee				
	4345									Cement Gro	out: 0-124 feet.				
-		SM	SILTY SAND (6.5-8 feet)						3	Bentonite C	Chips: 124-127.2				
_			Dry, dense, no odor. Primarily medium to fine sand to ~1 clay. The sand is subangular to subro	mm with ~20% silt and	-			X			#60 Sand 127. Sand 127.8-15				
-			low plasticity and toughness, are bro HCl.		-										
_		SM	SILTY SAND (8-9.5 feet)							Depth to W	ater Measuring	Point is			
-			Dry, loose, no odor. Primarily medium to fine sand with t	race coarse sand to ~4	-					Top of PVC	C Casing. C Elevation: 4,3				
_			mm and ~30% silt and clay. The sar subrounded. The fines are nonplastic							amsl.	up: 2.5 feet abo				
			and do not react to HCl.							surface.	up. 2.5 1001 abo	, o min			
-		SC	CLAYEY SAND (9.5-10.75 feet) Dry, dense, no odor.		_			*							

BORING LOG

B/W-3 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 2 of 12 Monitoring Well Soil Boring Sheet Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily medium to fine sand to ~1 mm with ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, are dark grayish brown (2.5Y 4/2), and have a strong reaction to HCl. **SILTY SAND** (10.75-12.25 feet) Dry, loose, no odor. 4340 Primarily medium to fine sand to ~2 mm with ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are light grayish brown, and do not react to HCl. SM | SILTY SAND (12.25-14.5 feet) Dry, loose, no odor. Primarily medium to fine sand with trace fine gravel to ~10 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular. The fines are nonplastic, are grayish brown, and do not react to HCl. SILTY SAND (8-9.5 feet) Dry to moist, loose, no odor. Primarily medium to fine sand with ~5% coarse sand to ~4 15 mm and ~25% silt and clay. The sand is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. CL SANDY LEAN CLAY (16-16.5 feet) Dry to moist, very stiff, no odor. Primarily silt and clay with ~35% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are olive brown (2.5Y 4/3), and do not react to HCl. **SILTY SAND** (16.5-20.25 feet) Dry to moist, loose, no odor. Primarily medium to fine sand with ~5% coarse sand to ~4 mm and ~25% silt and clay. The sand is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 20 SANDY LEAN CLAY (20.25-20.5 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~35% fine to medium sand to ~2 mm. The sand is subangular to subrounded. The fines have 4330 medium plasticity and toughness, are brown (10YR 5/3), and have a strong reaction to HCl. SILTY SAND (20.5-22.75 feet) Dry to moist, medium dense, no odor. Primarily sand to ~2 mm with ~25% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. **SILTY SAND** (22.75-23.75 feet)

BORING LOG

B/W-3 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 3 of 12 ${f X}$ Soil Boring Monitoring Well Sheet Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Dry to moist, loose, no odor. Primarily medium to fine sand with ~5% coarse sand to ~4 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not SC react to HCl CLAYEY SAND (23.75-25 feet)
Dry to moist, medium dense, no odor. Primarily medium to fine sand with trace coarse sand to ~4 mm and ~40% silt and clay. The sand is subangular to subrounded. The fines have low to medium plasticity and 25 low toughness, are brown, and do not react to HCl. SW-WELL-GRADED SAND with SILT (25-26 feet) Moist to saturated, loose, no odor. SM Primarily coarse to medium sand with ~30% fine sand, ~10% fine gravel to ~8 mm, and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and do not react to HCl. SANDY LEAN CLAY (26-28.5 feet) 4325 CL Dry to moist, hard, no odor. Primarily silt and clay with ~30% medium to fine sand, ~15% coarse sand, and ~5% gravel to ~18 mm. The sand and gravel are subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. **SILTY SAND** (28.5-29.5 feet) Moist, loose, no odor. Primarily medium to fine sand with ~20% coarse sand, ~5% gravel to ~10 mm, and ~25% silt and clay. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl SM **SILTY SAND** (29.5-35 feet) Moist to saturated, loose, no odor. 30 Primarily medium to fine sand with ~5% fine gravel to ~8 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and have a weak reaction to HCl. 4320 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 35 **SILTY SAND** (35-39.25 feet) Moist, medium dense, no odor. Primarily medium to fine sand with trace gravel to ~30 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl

BORING LOG

B/W-3 **Yerington Groundwater Investigation** Project Name: Well Number: 121243.021 **4** of **12** Soil Boring Monitoring Well Sheet Project Number: ISCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SM SILTY SAND with GRAVEL (39.25-39.75 feet) Saturated, loose, no odor. Primarily medium to fine sand with ~15% coarse sand, ~25% gravel to 25 mm, and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.

CLAYEY SAND (39.75-40 feet)

Moiet medium dones no oder 40-Moist, medium dense, no odor. Primarily medium to fine sand with ~15% coarse sand, trace fine gravel to ~10 mm, and ~40% silt and clay. The sand and gravel are subangular. The fines have medium plasticity 4310 and toughness, are brown, and have a weak reaction to HCl. SILTY SAND (40-42 feet) Moist, loose, no odor. Primarily medium to fine sand with ~20% coarse sand, ~5% SM fine gravel to ~10 mm, and ~20% silt and clay. The sand is subangular. The fines are nonplastic, are brown, and do not react to HCl. SILTY SAND (42-43 feet) Moist, loose, no odor. Primarily medium to fine sand with ~20% coarse sand, ~5% fine gravel to ~5 mm, and ~25% silt and clay. The sand is subangular. The fines are nonplastic, are brown, and do not react to HCl.

SILTY SAND (44-51.75 feet) Moist, medium dense to dense, no odor. Primarily medium to fine sand with ~10% gravel to ~40 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to 45 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 4305

BORING LOG

B/W-3 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 5 of 12 Monitoring Well Soil Boring Sheet Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 50 49 - 54 Ft 4300 **B** WELL-GRADED SAND with SILT (51.75-52.5 feet) Moist to saturated, loose, no odor. Primarily medium to fine sand with ~25% coarse sand, ~10% gravel to ~30 mm, and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. SILTY SAND (52.5-55 feet) Moist, medium dense, no odor. Primarily medium to fine sand with ~15% coarse sand, ~5% gravel to 35 mm, and ~20% silt and clay. The sand and gravel are angular to subrounded. The fines are nonplastic, and do not react to HCl. 55 WELL-GRADED SAND with SILT and GRAVEL (55-55.5 feet) SM Saturated, loose, no odor. SW-Primarily coarse to medium sand with ~30% gravel to ~40 mm and ~10% silt and clay. The sand and gravel are subangular. The fines are nonplastic, are brown, and do not react to HCl. 4295 WELL-GRADED SAND with SILT (55.5-57.5 feet) Saturated, loose, no odor. Primarily medium to fine sand with ~10% gravel to ~30 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. **SILTY SAND** (57.5-59.5 feet) Moist, medium dense, no odor. Primarily medium to fine sand with ~15% coarse sand, ~10% gravel to ~20 mm, and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, BRN&CALD.GDT 1/31/06 are brown, and do not react to HCl. **SILTY SAND** (59.5-60.75 feet) Saturated, medium dense, no odor. SONIC METHOD LOG YERINGTON.GPJ Primarily medium to fine sand with ~20% coarse sand, ~10% fine gravel to ~10 mm, and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. SW- WELL-GRADED SAND with SILT (60.75-61 feet) SM Saturated, loose, no odor. SM Primarily coarse to medium sand with ~10% fine gravel to ~10 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl SILTY SAND (61-62 feet) Saturated, medium dense, no odor.

BORING LOG

B/W-3 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 6 of 12 ${f X}$ Soil Boring Monitoring Well Sheet Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily medium to fine sand with trace fine gravel to ~10 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. SILTY SAND (62-64 feet) Saturated, loose, no odor. Primarily medium to fine sand with ~20% coarse sand, ~10% gravel to ~20 mm, and ~15% silt and clay. The sand and gravel are subangular. The fines are nonplastic, are brown, and do not react to HCl. - 67 Ft. SILTY SAND (64-66 feet) Saturated, loose, no odor. B/W-3 @ 62 Primarily coarse to medium sand with ~10% gravel to ~30 mm and ~15% silt and clay. The sand and gravel are angular 65 to subangular. The fines are nonplastic, are brown, and do not react to HCl. 4285 SM **SILTY SAND** (66-66.5 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~20% fine sand, ~5% SM fine gravel to \sim 10 mm, and \sim 15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. SILTY SAND (66.5-72 feet) Saturated, medium dense, no odor. Primarily sand to ~2 mm with ~45% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and have a weak reaction to HCl. 70-4280 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 SILTY SAND (72-75 feet) Moist to saturated, medium dense, no odor. Primarily sand with ~10% fine gravel to ~10 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, are brown, and do not react to HCl. SANDY LEAN CLAY (75-76 feet) Dry to moist, hard, no odor.

BORING LOG

B/W-3 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 7 of 12 \mathbf{X} Soil Boring Monitoring Well Sheet Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily silt and clay with ~45% medium to fine sand to ~2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react 4275 SM SILTY SAND (76-78 feet) Moist to saturated, medium dense, no odor. Primarily medium to fine sand with ~15% coarse sand, ~10% fine gravel to ~10 mm, and ~35% silt and clay. The sand and gravel are angular to subangular. The fines have low 75 - 80 Ft plasticity and toughness, are brown, and have a strong reaction to HCl. **©** B/W-3 SM **SILTY SAND** (78-79.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~15% coarse sand, ~5% fine gravel to ~5 mm, and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. SANDY LEAN CLAY (79.5-80 feet) CL Dry to moist, hard, no odor. Primarily silt and clay with ~35% medium to fine sand and 80 ~5% coarse sand to ~4 mm. The sand is subangular. The fines have medium plasticity and toughness, and have a strong reaction to HCl. SANDY LEAN CLAY (80-87 feet) Dry to moist, hard, no odor. Primarily silt and clay with \sim 50% sand to \sim 2 mm. The sand 4270 is subangular to subrounded. The fines have medium plasticity, low toughness, are brown (10YR 5/3), and have a weak reaction to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 85 4265 SM **SILTY SAND** (87-87.5 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~15% fine sand, ~10% CL gravel to ~20 mm, and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.

SANDY LEAN CLAY (87.5-88.5 feet) Moist, hard, no odor.

BORING LOG

B/W-3 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 8 of 12 ${f X}$ Soil Boring Monitoring Well Sheet Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily silt and clay with \sim 30% medium to fine sand and \sim 5% fine gravel to \sim 10 mm. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, are brown (10YR 4/3), and do not react to HCl. SANDY SILT (88.5-93 feet) Moist to saturated, hard, no odor. Primarily silt and clay with ~40% medium to fine sand and trace coarse sand to ~4 mm. The sand is angular to 90 subangular. The fines have low plasticity and toughness, are brown (10YR 4/3), and do not react to HCl. 4260 SW-SM WELL-GRADED SAND with SILT and GRAVEL (93-96.5 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~15% gravel to ~50 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. 95 B/W-3 @ 93 - 98 Ft 4255 **SILTY SAND** (96.5-98.5 feet) Moist, medium dense, no odor. Primarily coarse to medium sand with ~20% fine sand, ~5% gravel to ~30 mm, and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and have a weak reaction to HCl. YERINGTON.GPJ BRN&CALD.GDT 1/31/06 **LEAN CLAY** (98.5-100 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~10% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4) and have a strong reaction to HCl. SM **SILTY SAND** (100-106 feet) SONIC METHOD LOG Saturated, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl.

BORING LOG

B/W-3 **Yerington Groundwater Investigation** Project Name: Well Number: of <u>12</u> 121243.021 Monitoring Well ${f X}$ Soil Boring Project Number: Sheet JSCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 105 **LEAN CLAY** (106-107 feet) 4245 CL Dry to moist, hard, no odor.

Primarily silt and clay with ~20% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 4/3), and do not react to HCl. CL **LEAN CLAY** (107-110 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~30% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 4/3), and do not react to HCl. 110-WELL-GRADED SAND (110-115 feet) Moist to saturated, medium dense, no odor. Primarily medium to fine sand with trace fine gravel to ~8 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 mm and ~5% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and have a weak reaction to HCl. 4240 B/W-3 @ 110 - 115 Ft

BORING LOG

B/W-3 **Yerington Groundwater Investigation** Project Name: Well Number: 121243.021 Sheet <u>10</u> of <u>12</u> ${f X}$ Soil Boring Monitoring Well Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 115 POORLY-GRADED SAND (115-116.75 feet) Moist to saturated, medium dense, no odor. Primarily medium to fine sand with ~10% coarse sand to ~5 mm and ~5% silt and clay. The sand is angular to subangular. The fines have low plasticity and toughness, and are brown. 4235 **CLAYEY SAND** (116-75-118.5 feet) Moist, dense, no odor. Primarily medium to fine sand to ~1 mm with ~40% silt and clay. The fines have medium plasticity and toughness, are brown, and do not react to HCl. SM **SILTY SAND** (118.5-120 feet) Moist to saturated, medium dense, no odor.

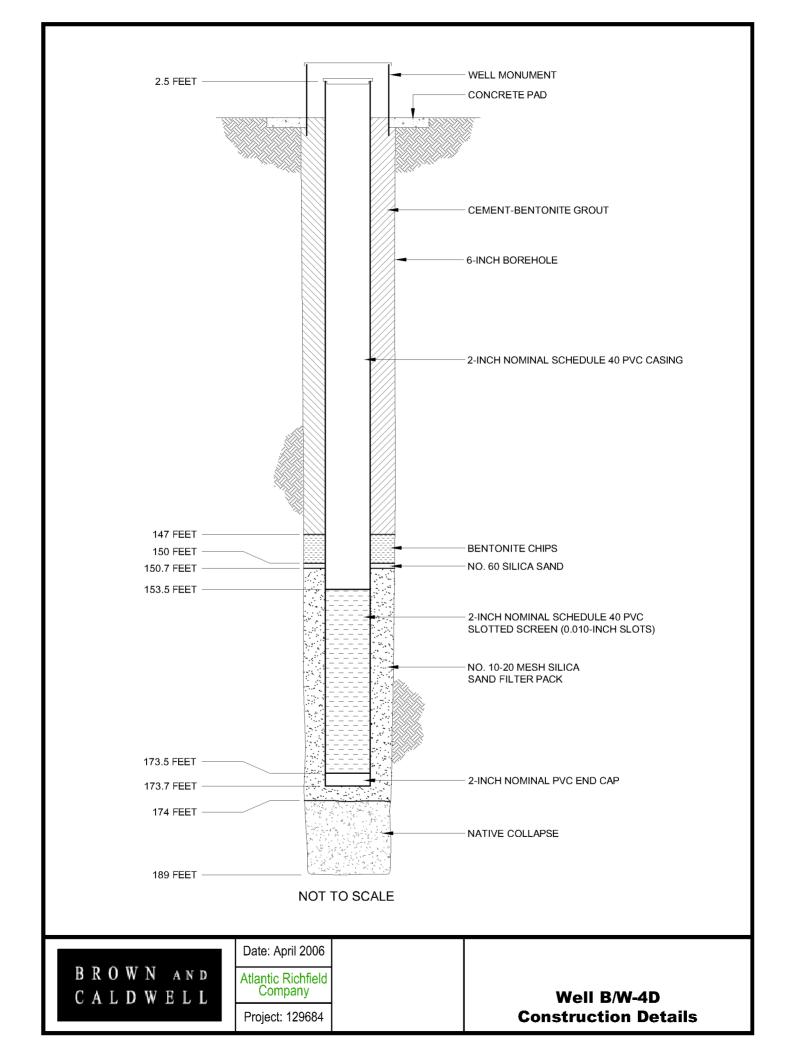
Primarily medium to fine sand to ~1 mm with ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity, are brown, and do not react to HCl. Interval interbedded with some fine-grained lenses, ~1 to 2.5 cm thick. 120 <u>CLAYEY SAND</u> (120-123.5 feet) SC Moist, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl. 4230 CH **FAT CLAY** (123.5-129.5 feet) SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Dry to moist, hard, no odor. Primarily silt and clay with $\sim 20\%$ fine sand (<1/2 mm). The sand is subangular to subrounded. The fines have high plasticity and toughness, are bluish black (GLEY N 2.5/), and do not react to HCl. 125 4225

BORING LOG

Well Number: **B/W-3** Project Name: **Yerington Groundwater Investigation** 121243.021 Sheet <u>11</u> of <u>12</u> ${f X}$ Soil Boring Monitoring Well Project Number: ISCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well **SILTY SAND** (129.5-130 feet) Moist, medium dense, no odor. Primarily medium to fine to ~1 mm sand with ~30% silt and 130-SM clay. The sand is subangular. The fines are nonplastic, are brown, and do not react to HCl. SILTY SAND (130-132 feet) Moist to saturated, medium dense, no odor. Primarily medium to fine sand with ~20% coarse sand to ~5 4220 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. B/W-3 @ 130 - 135 Ft SC CLAYEY SAND (132-133 feet) Moist, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, are brown, and do not react to HCl. POORLY-GRADED SAND with SILT (133-135 feet) Moist, dense, no odor. Primarily medium to fine sand to ~2 mm with ~10% silt and clay. The sand is subangular. The fines are nonplastic, are brown, and do not react to HCl. 135 **CLAYEY SAND** (135-138.5 feet) Moist, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~40% silt and clay. The sand is subangular. The fines have medium plasticity and toughness, are reddish brown, and do not react to HCl. 4215 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 **SILTY SAND** (138.5-140 feet) Moist to saturated, medium dense, no odor. Primarily medium to fine sand to ~1 mm with ~15% silt and clay. The sand is subangular. The fines are nonplastic, are reddish brown, and do not react to HCl. 140 CL SANDY LEAN CLAY (140-141.5 feet) Dry to moist, stiff, no odor. Primarily silt and clay with \sim 40% fine sand (<1/2 mm). The sand is subangular. The fines have medium plasticity and

BORING LOG

B/W-3 **Yerington Groundwater Investigation** Project Name: Well Number: 121243.021 Sheet <u>12</u> of <u>12</u> ${f X}$ Soil Boring Monitoring Well Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well toughness, are brown, and do not react to HCl. Some reddish brown iron oxide streaks. 4210 SW- WELL-GRADED SAND with SILT (141-142 feet) SAU Saturated, medium dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl SANDY LEAN CLAY (142-142.5 feet) Dry to moist, firm, no odor. Primarily silt and clay with ~40% medium to fine sand. The sand is subangular. The fines have medium plasticity and toughness, are brown, and do not react to HCl. Some reddish SP brown iron oxide streaks. WELL-GRADED SAND with SILT (142.5-143.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl @ 143 - 148 Ft POORLY-GRADED SAND (143.5-148 feet) 145 Saturated, medium dense, no odor. Primarily medium to fine sand with $\sim 5\%$ fine gravel to ~ 8 mm and ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. B/W-3 4205 CH **FAT CLAY** (148-150 feet) Dry to moist, hard, no odor. Primarily silt and clay with \sim 20% fine sand (<1/2 mm). The sand is subangular to subrounded. The fines have medium to high plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 150



BORING LOG

B/W-4 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 1 of _15 Monitoring Well Soil Boring Project Number: Sheet 322902.3 East: Boring Location: North of mine tailings, in Sunset Hills residential are Elevation: 4381.5 feet amsl North: 1563779.6 Drilling Contractor: WDC Driller: **B. Zamow** Date Started: **8/21/05** Date Finished: 8/26/05 Total Water Depth: Drilling Equipment: Gus Pech GP24-400RS, Diedrich Sonic Head 57.5' / 54.00' 189.0 Depth: (feet) (feet) Well Diameter Sampling Method: Core Barrel Borehole Diameter: 6" 2-inch PVC and Material: Screened Interval Drilling Method: Sonic, utilized 6" casing and a 4.5" core barrel 153.5-173.5 ft., bottom at 173.7 ft. and Well Depth: Slot Size: **0.020''** Filter Material: #10-20 Silica Sand Well Seal: Bentontite and Cement Logged By: C. Gardner Swabbed, bailed, pumped Development Method: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No Lithology Sample Description Remarks Well SILTY SAND (0-6 feet) Descriptions of drilled cuttings based Dry, loose, no odor. on ASTM Method D-2488 (the Primarily medium to fine sand with ~10% gravel to ~30 mm, visual-manual procedure), grain-size ~5% coarse sand, and ~15% silt and clay. The sand and determinations and nomenclature gravel is angular to subangular. The fines are nonplastic, based on the Unified Soil Classification brown, and do not react to HCl. System. Munsell colors described wet. 4380 Horizontal survey data is expressed in the Nevada State Plane system, Nevada West zone, in feet. Sharp contacts indicated by solid lines, gradational contacts indicated by dashed line. All depths are below land surface unless stated otherwise. 5 WELL DESIGN for B/W-4D: Screened Interval: 153.5-173.5 feet. Bottom of sump: 173.7 feet. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 SILTY SAND with GRAVEL (6-11 feet) SM Dry, loose, no odor. 4375 Cement Grout: 0-147 feet. Primarily medium to fine sand with ~15% gravel to ~30 mm, Bentonite Chips: 147-150 feet. and ~15% silt and clay. The sand is angular to subangular and the gravel is angular. The fines are nonplastic, brown, Filter Pack: #60 Sand 150-150.7 feet, and do not react to HCl. #10-20 Sand 150.7-174 feet. Native Collapse: 174-189 feet Depth to Water Measuring Point is Top of PVC Casing. Top of PVC Elevation: 4,383.96 feet, amsl. PVC Stick-up: 2.5 feet above land surface.

BORING LOG

B/W-4 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 2 of 15 Soil Boring Monitoring Well Sheet Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SM SILTY SAND with GRAVEL (11-16 feet) Dry, loose, no odor. 4370 Primarily medium to fine sand with ~15% gravel to ~45 mm, and ~20% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, light brown, and do not react to HCl. 15 SILTY SAND with GRAVEL (16-17 feet) Dry, loose, no odor. 4365 Primarily medium to fine sand with ~25% gravel to ~55 mm, ~15% coarse sand, and ~15% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, grayish brown, and do not react to HCl. CLAYEY SAND (17-18.5 feet) SC Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to ~15 mm, ~5% coarse sand, and ~30% silt and clay. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, are brown, and do not react to HCl. **SILTY SAND** (18.5-20 feet) Dry, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to ~20 mm, SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 and ~15% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have weak to no reaction to HCl. 20 CLAYEY SAND with GRAVEL (20-21 feet) Dry, medium dense, no odor. Primarily medium to fine sand with ~15% gravel to ~20 mm, ~5% coarse sand, and ~30% silt and clay. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, light brown, and have a strong SC reaction to HCl CLAYEY SAND with GRAVEL (21-22.75 feet) Dry, dense, no odor. 4360 Primarily medium to fine sand with ~15% gravel to ~15 mm, and ~25% silt and clay. The sand is subangular to subrounded and the gravel is angular to subangular. The fines have medium plasticity and medium toughness, are brown, and do not react to HCl. **SILTY SAND** (22.75-23.25 feet)

BORING LOG

B/W-4 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 3 of 15 ${f X}$ Monitoring Well Soil Boring Sheet Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to ~20 mm, and ~20% silt and clay. The sand and gravel is angular to subangular. The fines have low plasticity and toughness, are brown, and do not react to HCl.

CLAYEY SAND (23.25-24 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to ~15 mm, trace coarse sand, and ~30% silt and clay. The sand is subangular to subrounded and the gravel is angular to 25 subangular. The fines have medium plasticity and medium toughness, are brown, and have no to a strong reaction to HCĬ. SILTY SAND with GRAVEL (24-25 feet) Dry, medium dense, no odor. Primarily medium to fine sand with ~15% gravel to ~15 mm, -5% coarse sand, and ~15% silt and clay. The sand is subangular to subrounded and the gravel is angular to 4355 subangular. The fines are nonplastic, brown, and do not react to HCl.

CLAYEY SAND (25-29.25 feet) Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to ~20 mm, ~5% coarse sand, and ~40% silt and clay. The sand is subangular to subrounded and the gravel is angular to subangular. The fines have medium plasticity and medium toughness, are brown, and do not react to HCl. **SILTY SAND** (29.25-30 feet) Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to ~20 mm, ~5% coarse sand, and ~25% silt and clay. The sand is subangular to subrounded and the gravel is angular to 30 subangular. The fines have low plasticity and toughness, are brown, and have no to a weak reaction to HCl. CLAYEY SAND (30-31 feet) Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to ~25 mm, ~5% coarse sand, and ~40% silt and clay. The sand is subangular to subrounded and the gravel is angular to 4350 subangular. The fines have medium plasticity and medium toughness, are brown (10 YR 5/3), and have a weak reaction to HCl. SILTY SAND with GRAVEL (31-36.5 feet) SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Dry, medium dense, no odor. Primarily medium to fine sand with ~20% gravel to ~20 mm, ~15% coarse sand, and ~15% silt and clay. The sand is subangular to subrounded and the gravel is angular to subangular. The fines are nonplastic, brown, and do not react to HCl. 35

BORING LOG

B/W-4 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 4 of 15 \mathbf{X} Monitoring Well Soil Boring Sheet Project Number: JSCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 4345 SM **SILTY SAND** (36.5-40 feet) Dry, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to ~20 mm, and ~20% silt and clay. The sand is subangular to subrounded and the gravel is angular to subangular. The fines have low plasticity and toughness, are brown, and have a weak reaction to HCl. 40 SM SILTY SAND with GRAVEL (40-41.5 feet) Dry, dense, no odor. Primarily medium to fine sand with ~15% gravel to ~20 mm, and ~15% silt and clay. The sand is subangular to subrounded and the gravel is angular to subangular. The fines are nonplastic, brown, and do not react to HCl. **SILTY SAND** (41.5-44 feet) SM Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to ~15 mm, ~5% coarse sand, and ~20% silt and clay. The sand is subangular to subrounded and the gravel is angular to subangular. The fines are nonplastic, brown, and have a strong reaction to HCl. SANDY LEAN CLAY (44-44.5 feet) CL Dry, dense, no odor. Primarily silt and clay with ~5% gravel to ~15 mm, ~40% medium to fine sand, and ~5% coarse sand. The sand is subangular to subrounded and the gravel is angular to 45 subangular. The fines have medium plasticity and medium SC toughness, are brown (10YR 5/3), and have a strong reaction SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 SILTY SAND (44.5-45 feet) Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to ~15 mm, 5% coarse sand, and ~20% silt and clay. The sand is subangular to subrounded and the gravel is angular to 4335 subangular. The fines are nonplastic, brown, and have a strong reaction to HCl CLAYEY SAND (45-47.5 feet) Moist, medium dense, no odor. Primarily medium to fine sand with trace gravel to ~20 mm, ~5% coarse sand, and ~30% silt and clay. The sand is SW- subangular to subrounded and the gravel is subangular. The fines have medium plasticity and medium toughness, are brown, and have a strong to weak reaction to HCl. WELL GRADED SAND with SILT (47.5-49.5 feet) Moist, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to ~40 mm, ~5% coarse sand, and ~10% silt and clay. The sand is subangular to subrounded and the gravel is angular. The fines are nonplastic, brown, and have no reaction to HCl.

BORING LOG

B/W-4 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 5 of 15 Monitoring Well Soil Boring Sheet Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well WELL GRADED SAND with SILT AND GRAVEL(49.5-50.5 feet) Moist, medium dense, no odor. 50 Primarily medium to fine sand with ~20% gravel to ~30 mm, ~15% coarse sand, and ~10% silt and clay. The sand is subangular to subrounded and the gravel is angular to subangular. The fines are nonplastic, brown, and have no reaction to HCl.

WELL GRADED SAND with SILT and **GRAVEL**(50.5-53.5 feet) 4330 Moist, medium dense, no odor. Primarily medium to fine sand with ~15% gravel to ~45 mm, ~15% coarse sand, and ~5% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have no reaction to HCl. WELL GRADED SAND with SILT (53.5-55 feet) Moist, medium dense, no odor. Primarily medium to fine sand with ~10% gravel to ~20 mm, ~15% coarse sand, and ~10% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have no reaction to HCl. 55 SILTY SAND (55-57.5 feet) Moist, medium dense, no odor. Primarily medium to fine sand with trace gravel to ~30 mm, and ~15% silt and clay. The sand is subangular to subrounded and the gravel is angular to subangular. The fines are nonplastic, brown, and have no reaction to HCl. WELL GRADED SAND with SILT (57.5-58.5 feet) Saturated, medium dense, no odor. Primarily medium to coarse sand with ~5% gravel to ~20 mm, ~10% fine sand, and ~5% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, BRN&CALD.GDT 1/31/06 brown, and have no reaction to HCl.

WELL GRADED SAND with SILT AND

GRAVEL (58.5-60 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~20% gravel to ~50 mm, ~15% coarse sand, and ~10% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have no reaction to HCl. SONIC METHOD LOG YERINGTON.GPJ WELL GRADED SAND with SILT (60-62.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace gravel to ~15 mm, and ~10% silt and clay. The sand is angular to subrounded and the gravel is angular. The fines are nonplastic, brown, and have no reaction to HCl. 4320

BORING LOG

B/W-4 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 6 of 15 ${f X}$ Monitoring Well Soil Boring Sheet . Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SW-WELL GRADED SAND with SILT AND GRAVEL SM (62.5-63.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~20% gravel to ~50 mm, ~15% coarse sand, and ~10% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have no reaction to HCl GM WELL GRADED GRAVEL with SILT AND SAND (63.5-64.5 feet) Saturated, medium dense, no odor. Primarily gravel to ~60 mm, ~35% medium to fine sand, ~15% coarse sand, and ~10% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, 62 @ B/W-4 65 brown, and have no to a weak reaction to HCl. WELL GRADED SAND with SILT (64.5-66.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~10% gravel to ~40 mm, ~15% coarse sand, and ~10% silt and clay. The sand is subangular to subrounded and the gravel is angular. The fines are nonplastic, brown, and have no reaction to HCl. 4315 SANDY LEAN CLAY (66.5-67 feet) CL Moist, stiff, no odor. Primarily silt and clay with ~5% gravel to ~50 mm, ~40% medium to fine sand, and ~5% coarse sand. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, are yellowish-brown (10YR 5/4), and have no reaction to HCl. WELL GRADED SAND with SILT AND GRAVEL (67-69.5 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~15% gravel to ~40 mm, ~15% fine sand, and ~10% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have no reaction to HCl. SM **SILTY SAND** (69.5-70.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~10% gravel to ~35 mm, 70and ~25% silt and clay. The sand and gravel is angular to subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCI.

WELL GRADED SAND with SILT AND GRAVEL
(70.5-91.5 feet) SM Saturated, medium dense, no odor. Primarily coarse to medium sand with ~15% gravel to ~50 4310 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 mm, ~15% fine sand, and ~10% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have no reaction to HCl.

BORING LOG

Project Name:	Yerington Groundwater Investigation		Well Number: B/W-4		
Soil Boring	Monitoring Well	Project Number:	121243.021	Sheet 7	of <u>15</u>
Depth (feet) Elevation (feet) USCS Group Symbol	Description	Sample No.		Remarks	
SONIC METHOD LOG YERINGTON GPJ BRN&CALD, GDT 1/31/06		RW-4 @ 78-83 Ft			

BORING LOG

B/W-4 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 8 of 15 ${f X}$ Soil Boring Monitoring Well Sheet Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 90 4290 SANDY LEAN CLAY (91.5-93 feet) Dry to moist, dense, no odor. Primarily silt and clay with ~10% gravel to ~25 mm, ~15% coarse sand, and ~35% medium to fine sand. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, are brown (10YR 5/3), and have no reaction to HCl. SILTY SAND (93-96 feet) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to ~25 mm, ~5% coarse sand, and ~30% silt and clay. The sand is angular to subrounded and the gravel is angular to subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl. 95 SANDY LEAN CLAY (96-97 feet) Dry to moist, dense, no odor. 4285 Primarily silt and clay with ~5% gravel to ~20 mm, ~5% coarse sand, and ~25% medium to fine sand. The sand is angular to subrounded and the gravel is angular to subangular. The fines have medium plasticity and toughness, SM are brown (10YR 5/3), and have no to a strong reaction to YERINGTON.GPJ BRN&CALD.GDT 1/31/06 SILTY SAND (97-100 feet) Moist, dense, no odor. Primarily medium to fine sand with \sim 5% gravel to \sim 15 mm, and \sim 40% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The fines have low plasticity and toughness, are brown, and have no reaction to HCl. **SILTY SAND** (100-101.5 feet) SONIC METHOD LOG Saturated, medium dense, no odor. Primarily medium to fine sand with ~10% gravel to ~20 mm, ~15% coarse sand, and ~15% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have no reaction to HCl.

BORING LOG

B/W-4 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 9 of 15 \mathbf{X} Soil Boring Monitoring Well Sheet Project Number: Graphic Log USCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SM **SILTY SAND** (101.5-103 feet) Saturated, medium dense, no odor. 105 Ft. Primarily medium to fine sand with ~10% gravel to ~20 mm, ~15% coarse sand, and ~15% silt and clay. The sand and @ 100 gravel is angular to subangular. The fines are nonplastic, brown, and have no reaction to HCl. B/W-4 **SILTY SAND** (103-104.25 feet) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to ~25 mm, ~15% coarse sand, and ~15% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have no reaction to HCl. SILTY SAND (104.25-105.25 feet) Moist, dense, no odor. SM Primarily medium to fine sand with ~5% gravel to ~55 mm, ~5% coarse sand, and ~25% silt and clay. The sand and 105 gravel is angular to subangular. The fines are nonplastic, brown, and have no to a weak reaction to HCl. <u>CLAYEY SAND</u> (105.25-109 feet) SC Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to ~55 mm, ~20% coarse sand, and ~25% silt and clay. The sand and gravel is angular to subangular. The fines have medium 4275 plasticity and toughness, are brown, and have a weak to strong reaction to HCl. SILTY SAND (109-112.5 feet) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to ~15 mm, and ~20% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have no to 110a weak reaction to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 4270 **SILTY SAND** (112.5-113.5 feet) Moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to ~20 mm, ~25% coarse sand, and ~15% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have a strong reaction to HCl. SILTY SAND (113.5-115.5 feet) SM Moist, dense, no odor. Primarily medium to fine sand with trace gravel to ~15 mm, ~5% coarse sand, and ~25% silt and clay. The sand and gravel is angular to subangular. The fines have low plasticity

BORING LOG

B/W-4 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>10</u> of <u>15</u> ${f X}$ Soil Boring Monitoring Well Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well and toughness, are brown, and have a strong to weak reaction to HCl. 115 SM SILTY SAND with GRAVEL (115.5-116.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~15% gravel to ~30 mm, ~15% coarse sand, and ~20% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, 4265 brown, and have no reaction to HCl WELL GRADED SAND(116.5-118 feet) Saturated, medium dense, no odor. 115 - 120 Ft Primarily medium to fine sand with ~5% gravel to ~35 mm, ~20% coarse sand, and ~5% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have no reaction to HCl. **©** B/W-4 CLAYEY SAND (118-119.5 feet) Moist, dense, no odor. SC Primarily medium to fine sand with trace gravel to ~10 mm, and ~35% silt and clay. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. SM SILTY SAND (119.5-120 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace gravel to ~20 mm, 120 ~5% coarse sand, and ~35% silt and clay. The sand and gravel is angular to subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl. SILTY SAND (120-123 feet) Moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to ~40 mm, ~5% coarse sand, and ~35% silt and clay. The sand and gravel is angular to subangular. The fines have low plasticity 4260 and toughness, are brown, and have a strong reaction to HCl. SC <u>CLAYEY SAND</u> (123-127.5 feet) Moist, dense, no odor. Primarily medium to fine sand with trace gravel to ~35 mm, ~5% coarse sand, and ~40% silt and clay. The sand and BRN&CALD.GDT 1/31/06 gravel is angular to subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. 125 SONIC METHOD LOG YERINGTON.GPJ SC | CLAYEY SAND (127.5-128 feet)

BORING LOG

B/W-4 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>11</u> of <u>15</u> \mathbf{X} Monitoring Well Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Moist, very dense, no odor. Primarily medium to fine sand with trace gravel to ~10 mm, SM trace amounts of coarse sand, and ~30% silt and clay. The sand and gravel is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and have no reaction to HCl. <u>SILTY SAND</u> (128-129.5 feet) Saturated, dense, no odor. Primarily medium to fine sand with trace gravel to ~8 mm, trace amounts of coarse sand, and ~20% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The fines have low plasticity and toughness, are brown, and have no reaction to HCl. 130-**CLAYEY SAND** (129.5-130.5 feet) Moist to saturated, dense, no odor. Primarily medium to fine sand with trace gravel to ~10 mm, SM trace amounts of coarse sand, and ~30% silt and clay. The sand and gravel is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have no reaction to HCl 4250 WELL GRADED SAND with GRAVEL(130.5-131.5 feet) SM Saturated, medium dense, no odor. Primarily coarse to medium sand with ~20% gravel to ~20 mm, ~10% fine sand, and ~10% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and have no reaction to HCl. **SILTY SAND** (131.5-133.75 feet) Moist, dense, no odor. @ 131 - 136 Ft Primarily medium to fine sand with trace gravel to ~20 mm, trace amounts of coarse sand, and ~20% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl WELL GRADED SAND with SILT AND GRAVEL(133.75-134.75 feet) B/W-4 SM Saturated, medium dense, no odor. Primarily coarse to medium sand with ~30% gravel to ~30 mm, ~10% fine sand, and ~10% silt and clay. The sand and gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl. 135 SILTY SAND (134.75-135 feet) Saturated, medium dense, no odor. SM Primarily medium to fine sand with trace gravel to \sim 15 mm, \sim 5% coarse sand, and \sim 20% silt and clay. The sand is subangular to subrounded and the gravel is subangular. The CL fines are nonplastic, brown, and have no reaction to HCl WELL GRADED SAND with SILT AND 4245 GRAVEL(135-136 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~30% gravel to ~30 mm, ~10% fine sand, and ~10% silt and clay. The sand and SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl.

SANDY LEAN CLAY with GRAVEL(136-139 feet) Moist, moist to dry in lower portion of interval, hard, no Primarily silt and clay with ~15% gravel to ~20 mm, coarse sand, and ~35% coarse to fine sand. The sand and gravel is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and have no reaction to HCL 140

BORING LOG

B/W-4 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>12</u> of <u>15</u> \mathbf{X} Monitoring Well Soil Boring Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 4240 POORLY GRADED SAND with SILT(141.5-142.5 feet) SM Saturated, medium dense, no odor. Primarily medium to fine sand with trace gravel to ~20 mm, trace amounts of coarse sand, and ~10% silt and clay. The sand is subangular to rounded and the gravel is subangular to subrounded. The fines are non-plastic, are brown, and have SM no reaction to HCl SILTY SAND with GRAVEL (142.5-143.5 feet) Moist, dense, no odor. Primarily coarse, medium, and fine sand with ~20% gravel to ~50 mm, and ~20% silt and clay. The sand and gravel is angular to subangular. The fines are non- plastic, are brown, and have no reaction to HCl. SANDY LEAN CLAY (143.5-146 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~5% gravel to ~25 mm, ~5 % coarse sand, and ~40% medium and fine sand. The sand is subangular to subrounded and the gravel is angular to subrounded. The fines have medium plasticity and 145 toughness, are yellowish brown (10YR 5/4), and have no reaction to HCl. CLAYEY SAND (146-147 feet) Dry to moist, dense, no odor. 4235 Primarily medium to fine sand with ~10% gravel to ~8 mm, and ~25% silt and clay. The sand and gravel is subangular to subrounded. The fines have medium plasticity, low to medium toughness, are brown, and have no reaction to HCl SILTY SAND with GRAVEL (147-148.5 feet) Saturated, medium dense, no odor. Moist, dense, no odor. Primarily medium to fine sand with ~15% gravel to ~30 mm, and ~20% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have no reaction to HCl. SILTY SAND with GRAVEL (148.5-149.75 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~15% gravel to ~40 mm, ~25% coarse sand, and ~15% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and have no reaction to HCl. **SILTY SAND** (149.75-150.5 feet) 1/31/06 150 Moist to saturated, medium dense, no odor. Primarily medium to fine sand with ~10% gravel to ~10 mm, SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT and ~15% silt and clay. The sand is subangular and the gravel is subrounded to subangular. The fines are no to low plasticity, no to low toughness, are brown, and have no reaction to HCl SILTY SAND with GRAVEL (150.5-151.75 feet) Moist, dense, no odor. 4230 Primarily medium to fine sand with ~15% gravel to ~30 mm, 15% coarse sand, and ~20% silt and clay. The sand is subangular to angular and the gravel is subrounded to subangular. The fines are nonplastic, brown, and have no reaction to HCl SILTY SAND with GRAVEL (151.75-152.5 feet) SC Moist, dense, no odor. Primarily medium to fine sand with ~15% gravel to ~20 mm, ~30% coarse sand, and ~15% silt and clay. The sand and gravel is subangular to angular. The fines have low plasticity and toughness, are brown, and have no reaction to HCl.

CLAYEY SAND with GRAVEL (152.5-155 feet) Moist, dense, no odor.

BORING LOG

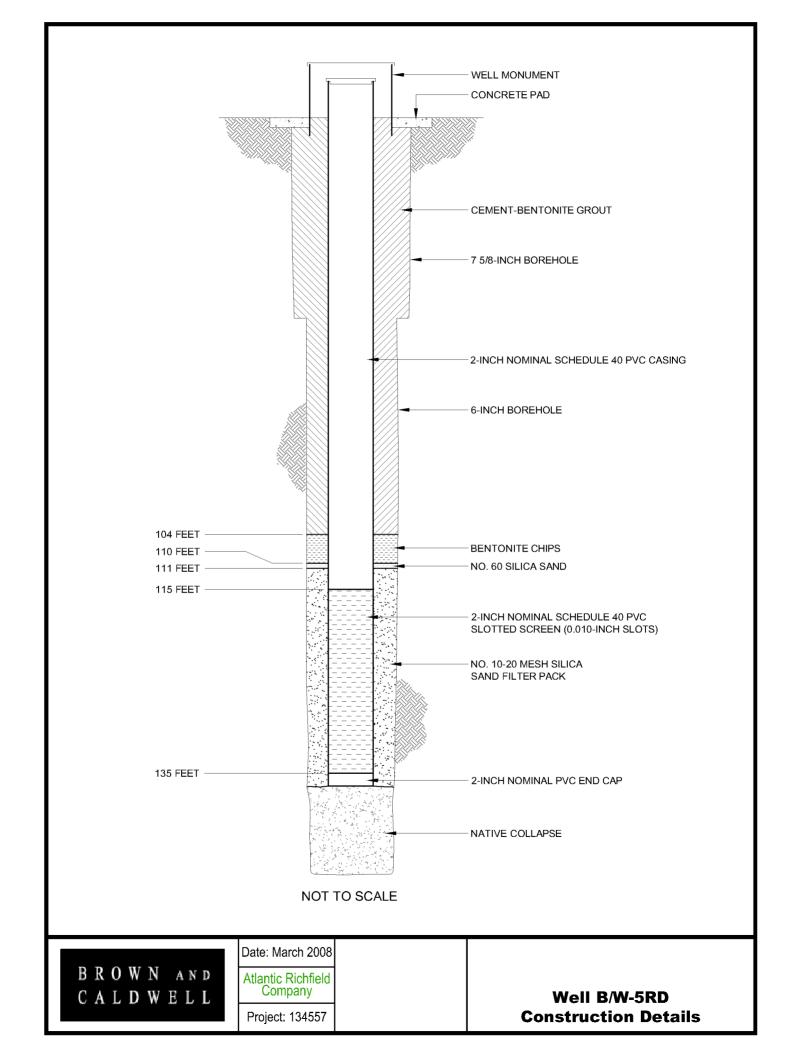
B/W-4 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>13</u> of <u>15</u> \mathbf{X} Soil Boring Monitoring Well Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily medium to fine sand with ~20% gravel to ~20 mm, ~25% coarse sand, and ~30% silt and clay. The sand and gravel is subangular to angular. The fines have medium plasticity and toughness, are brown, and have no reaction to 155 SW-WELL GRADED SAND with SILT (155-156 feet) Saturated, medium dense, no odor. SM Primarily coarse to medium sand with ~5% gravel to ~30 mm, ~10% fine sand, and ~10% silt and clay. The sand and gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl. - 159] WELL GRADED SAND with SILT AND GRAVEL (156-157.5 feet) SM B/W-4 @ 154 Saturated, medium dense, no odor. Primarily coarse to medium sand with ~40% gravel to ~30 mm, ~10% fine sand, and ~10% silt and clay. The sand and gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl. CLAYEY SAND with GRAVEL (157.5-163 feet) SC Dry to moist, dense, no odor. Primarily medium to fine sand with ~30% gravel to ~25 mm, ~5% coarse sand, and ~35% silt and clay. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, are brown, and have no reaction to 160 4220 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 WELL GRADED SAND with SILT AND GRAVEL (163-164.5 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~40% gravel to ~50 mm, ~10% fine sand, and ~10% silt and clay. The sand is subangular to subrounded and the gravel is subrounded. The fines are nonplastic, brown, and have no reaction to HCl. SM | SILTY SAND with GRAVEL(165.5-166 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~35% gravel to ~30 65 mm, ~15% fine sand, and ~15% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have no reaction to HCl. SC **CLAYEY SAND** (166-166.5 feet) Moist, dense, no odor. Primarily medium to fine sand with trace gravel to ~8 mm, and ~35% silt and clay. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness

BORING LOG

B/W-4 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>14</u> of <u>15</u> \mathbf{X} Monitoring Well Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well light brown, and have no reaction to HCl. SILTY SAND with GRAVEL (166.5-167.5 feet) Moist, dense, no odor. Primarily coarse to medium sand with ~20% gravel to ~30 mm, $\sim 15\%$ fine sand, and $\sim 20\%$ silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, light brown, and have no reaction to HCl **CLAYEY SAND** (167.5-168 feet) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to ~40 mm, and ~40% silt and clay. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness light brown, and have no to a strong reaction to HCl No Recovery (168-169 feet) WELL GRADED SAND with GRAVEL (169-171.5 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~45% gravel to ~40 mm, ~10% fine sand, and ~5% silt and clay. The sand is 168 - 173 Ft 170 angular to subangular and the gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl. B/W-4@ 4210 SANDY LEAN CLAY (171.5-172 feet) Moist, firm, no odor. Primarily silt and clay with trace coarse sand to ~4.5 mm, and ~30% medium to fine sand. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are dark grayish-brown (2.5Y 4/2), and have no reaction to HCl SILTY SAND (172-175 feet) Moist, medium dense, no odor. Primarily medium to fine sand with \sim 5% gravel to \sim 10 mm, and ~30% silt and clay. The sand and gravel is angular to subangular. The fines have low plasticity and toughness, are brown, and have no reaction to HCl. 175 WELL GRADED SAND with SILT (175-176 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~10 mm, ~20% fine sand, and ~10% silt and clay. The sand and gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 SM WELL GRADED SAND with SILT (175-176 feet) 4205 Saturated, medium dense, no odor. Primarily coarse to medium sand with ~10% gravel to ~10 mm, \sim 20% fine sand, and \sim 10% silt and clay. The sand and gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl. **CLAYEY SAND** (178.5-186 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to ~45 mm, and ~30% silt and clay. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, are brown, and have no reaction to HCl.

BORING LOG

Well Number: B/W-4 **Yerington Groundwater Investigation** Project Name: Sheet <u>15</u> of <u>15</u> 121243.021 \mathbf{X} Monitoring Well Soil Boring Project Number: JSCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 4200 185 SILTY SAND with GRAVEL (187-189 feet)
Moist, dense, no odor.
Primarily medium to fine sand with ~15% gravel to ~25 mm, 4195 and ~20% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, brown, and have no reaction to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06



Brown and Caldwell BORING LOG

Project Name: Yerington Second Step Hydrogeologic Framework Assessment Project Number: 132025													
Soil Boring: Monitoring Well: X Piezometer: Boring/Well Number: B/W-5D Sheet 1 of 8													
Boring Location: Locared 1/2 mile North on west side of Mason Pass Rd.								Northing: Easting:					
Drilling Contractor: Boart Longyear Driller: R. Salois								Top of PVC Elevation: feet ams Ground Surface Elevation: feet ams Date Started: 11/12/07 Date Finished: 11/13/07					
Drilling Equipment: GP24-300RS Borehole Diameter:6-inches													
Drilling Method: Sonic Drilling Fluid: Water								Completed Water Depth: 135 fbgs Depth: fbmp					
Samp	oling N	Method:	Core Barrel			WELL CONSTRUCTION							
Well	Seal:	Bentonite	and Cement			Typ of V	e and Vell C	Diar asing	met g:		nedule 40 PVC		
Logg	ed By:	: C. Straus	ss			Slot	Size:	0.0	10 i	inch Filter M	aterial: #10-20 Silica Sand		
										•			
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material D	escription	Sample Name	Sample Location	Lithology	Well	Construction		Remarks		
-		SM	Silty Sand (0 - 5.5) Dry, loose, no odor. Primal with ~10% gravel to 15 mm The sand and gravel are sub The fines are nonplastic.	and ~ 20% silt and clay.						Method D-24 grain-size det based on the System. Horizontal Su Nevada State zone, in feet. Sharp contact gradational co	f drilled cuttings based on ASTM 88 (the visual-manual procedure), erminations and nomenclature Unified Soil Classification rvey data is expressed in the Plane system, Nevada West ts indicated by solid lines, ontacts indicated by dashed line.		
5		SM	Silty Sand (5.5 - 9) Dry, loose, no odor. Primar with ~10% gravel to 10mm; The sand and gravel are sub The fines are nonplastic,	and ~ 20% silt and clay .						otherwise. WELL DESIG PVC Stickup: Cement - Ber Bentonite Chi No. 60 Silica #10-20 Silica 2-inch Nomin Slotted Scree Native Collap	GN for B/W-5D: feet. tonite Grout: 0 - 104 feet ips: 104 - 110 feet Sand: 110 - 111 feet Sand Filter Pack: 111 - 135 feet al Schedule 80 PVC 0.010 en: 115 - 135 feet		
		SP-SM	Poorly Graded Sand with S Dry, loose, no odor. Primal with ~5% coarse sand to 3 n The sand is subangular to su nonplastic.	rily medium to fine sand nm and ~15% silt and clay.					<u>VIANVANVANVANVANVANVANVANVANVANVANVANVANVA</u>		ells at this location: 3 als for paired wells are labeled at lepths.		

BORING LOG

			Conitoring Well: X Piezometer: Boring/Well		_	R	Pr W-5D	Sheet _2_ of _8_		
Soil Boring: Monitoring Well: A Piezometer: Boring/Well Number: B/W-5D Sheet 2 of 8										
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks		
 20		SM SM	Silty Sand (17.5 - 18) Dry, loose, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~ 15% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic Silty Sand (18 - 22) Dry, loose, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic.							
		SW	Well-Graded Sand (22 - 26) Dry to moist, loose, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic.							
30-		SC	Clayey Sand (26 - 31) Dry to moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness.					■B/W-5S screened from 30 to 50 feet		
-		SC	Clayey Sand (31 - 36) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% coarse grained sand to 1 mm and ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness.							

BORING LOG

Proj	ect Na	me: _Yer	ington Second Step Hydrogeologic Framework Assessment		_		Pr	oject Number: <u>132025</u>
Soil l	Boring	: M	fonitoring Well: X Piezometer: Boring/Well	l Nur	nbe	r: <u>B</u>	W-5D	Sheet <u>3</u> of <u>8</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
35-		SM	Silty Sand (36 - 37.5) Moist, dense, no odor. Primarily medium to fine sand with ~5% coarse sand to 2 mm and ~25% silt and clay. The sand is subangular to subrounded. The fines are nonplastic to low plasticity and toughness.					
40-		SP-SM	Poorly Graded Sand with Silt (37.5 - 38.5) Moist to saturated, loose to dense, no odor. Primarily medium to fine sand with ~15% coarse sand to 3 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic. Silty Sand (38.5 - 42) Moist to saturated, dense, no odor. Primarily fine sand with ~5% coarse sand to 2 mm and ~25% silt and clay. The sand is subangular to subrounded. The fines have low plasticity and toughness.	-				
45-		SP-SM SP-SM	Poorly Graded Sand with Silt (42 - 43) Saturated, loose, no odor. Primarily medium sand with ~15% coarse sand to 4 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic. Poorly Graded Sand with Silt (43 - 44) Moist, dense, no odor. Primarily fine sand with ~10% medium sand to 0.5 mm and ~ 15% silt and clay. The sand is subangular to subrounded. The fines have low to medium plasticity and toughness.	-				
- - - 50 —			Silty Sand (44 - 51.5) Moist to saturated, loose to dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic.	-				
-		SM	Silty Sand (51.5 - 53) Moist, dense, no odor. Primarily medium to fine sand with ~10% coarse sand to 2 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic.					

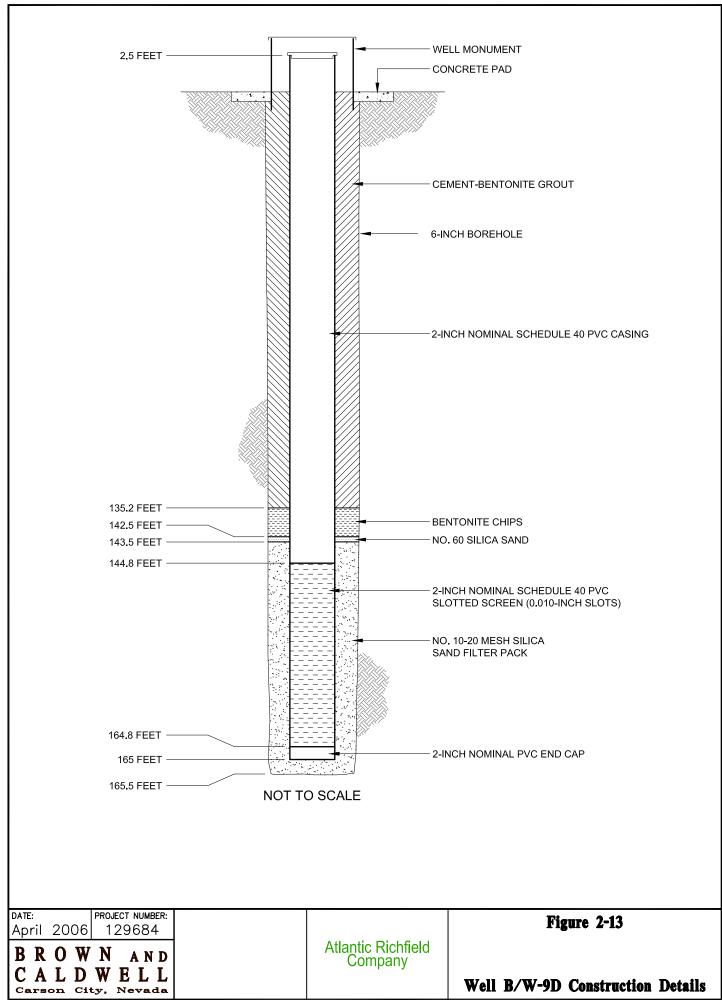
Proj	ect Na	me: _Yer	ington Second Step Hydrogeologic Framework Assessment		_		Pr	oject Number: 132025
Soil 1	Boring	: M	fonitoring Well: X Piezometer: Boring/We	ell Nu	nbe	r: <u>B</u>	W-5D	Sheet <u>4</u> of <u>8</u>
				_				
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
55-		SC	Clayey Sand (53 - 56) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~ 40% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic.					
-			(56 - 60) No recovery					
60 — - -		SC	Clayey Sand (60 - 63.5) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~40% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic.					
65-		SM	Silty Sand (63.5 - 66) Dry, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 20 mm and ~25% silt and clay. The sand is subangular to subrounded. The fines are nonplastic.					
-		SM	Silty Sand (66 - 68.5) Dry to moist, dense, no odor. Primarily fine sand with ~15% medium sand to 0.5 mm and ~ 30% silt and clay. The sand is subangular to subrounded. The fines have low to medium plasticity and toughness.					
70-		SW-SM	Well-Graded Sand with Silt (68.5 - 71) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~ 20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic.					
=		SC	Clayey Sand with Gravel (71 - 76) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~30% silt and					

·			fonitoring Well: X Piezometer: Boring/Wel		_	D		ject Number: 132023
Soil Boring: Monitoring Well: A Piezometer: Boring/Well Number: B/W-5D								Sheet <u>5</u> of <u>8</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
- - 75—			clay. The sand and gravel are angular to subrounded. The fines have low to medium plasticity and toughness.					
		SM	Silty Sand (76 - 81) Dry to moist, dense, no odor. Primarily fine sand with ~30% medium sand to 0.1 mm and ~30% silt and clay. The sand is subangular to subrounded. The fines are nonplastic to low plasticity and toughness.					B/W-5I screened from 77.5 to 97.5 feet
		SM	Silty Sand with Gravel (81 - 88) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~ 25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic.					
		SP	Poorly Graded Sand with Silt (88 - 89) Saturated, loose, no odor. Primarily medium to fine sand with ~10% coarse sand to 1 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic. Silty Sand with Gravel (89 - 91.5) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~ 25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic. Section has iron	_				

Proje	ect Na	me: Yeri	ngton Second Step Hydrogeologic Framework Assessment		_		Pr	oject Number: <u>132025</u>
Soil I	Boring	: M	onitoring Well: X Piezometer: Boring/Wel	l Nur	nbe	r: <u>B</u>	/W-5D	Sheet <u>6</u> of <u>8</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
			staining visible in bands.			a 0 . C		
-		SM	Silty Sand (91.5 - 93) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic.					
95-		SM	Silty Sand (93 - 95) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic.					
95 —		SC	Clayey Sand (95 - 99) Dry to moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 2mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic.					
100-		SM	Silty Sand (99 - 101.5) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic.					
_		SM	Silty Sand (101.5 - 103) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic.					
_		SM	Silty Sand (103 - 107.5) Dry, dense, no odor. Primarily medium to fine sand with a maximum grain size 0.5 mm and ~25% silt and clay. The sand is subangular to subrounded. The fines have low plasticity and toughness.					
105 —								
-		SP	Poorly Graded Sand with Silt (107.5 - 109) Dry to moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm, ~15% coarse grain sand and ~ 15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic.			6 <i>7</i> °/X		
110-		SC SC	Clayey Sand with Gravel (109 - 109.5) Dry, very dense, no odor. Primarily medium to fine	1				

Proj	ect Na	me:Yen	ngton Second Step Hydrogeologic Framework Assessment		_		Pro	oject Number: <u>132025</u>
Soil 1	Boring	: M	onitoring Well: X Piezometer: Boring/Well	Sheet of				
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
- - - 115-		SM	clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness. Clayey Sand (109.5 - 112) Moist, very dense, no odor. Primarily medium to fine sand with maximum grain size 0.5 mm and ~35% silt and clay. The sand is subangular to subrounded. The fines have low to medium plasticity and toughness. Silty Sand (112 - 116) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~ 25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness. There are more sandy intervals from 112-112.5 feet and 113.5-114 feet.					B/W-5D screened from 115 to 135
-	-	SW-SM	Well-Graded Sand with Silt (116 - 117) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~ 15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic.	-				
- 120 – -			Poorly Graded Sand (117 - 126.5) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 100 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic. There is a thin clayey layer ~124 feet.					
- 125- -								
-	-	SM	Silty Sand (126.5 - 128) Dry to moist, dense, no odor. Primarily medium to fine sand with maximum grain size 1mm and ~25% silt and clay. The sand is subangular to subrounded. The fines are nonplastic.					
_	_	SM	Silty Sand (128 - 135) Dry, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~30% silt and clay. The sand and gravel are angular to subangular.					

			ington Second Step Hydrogeologic Framework Assessment		_			oject Number: 132023
Soil Bor	ring:	M	fonitoring Well: X Piezometer: Boring	Well Nu	mbe	r: <u>B</u>	W-5D	Sheet <u>8</u> of <u>8</u>
Depth (ft) Elevation	(#)	uscs Group symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
130-			Bottom of Borehole at 135 feet below ground surface.					



BORING LOG

B/W-9 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 1 of _13 ${f X}$ Monitoring Well Soil Boring Project Number: Sheet 323810.1 East: Boring Location: North of mine tailings, east of Sunset Hills Drive North: Elevation: 4351.3 feet amsl 1558835.3 Drilling Contractor: WDC Driller: **B. Zamow** Date Started: **9/11/05** Date Finished: 9/14/05 Total Water Depth: 22.5' / 17.11 Drilling Equipment: Gus Pech GP24-400RS, Diedrich Sonic Head 165.5 Depth: (feet) (feet) Well Diameter Sampling Method: Core Barrel Borehole Diameter: 6" 2-inch PVC and Material: Screened Interval Drilling Method: Sonic, utilized 6" casing and a 4.5" core barrel 144.8-164.8 ft., bottom at 165.0 ft. and Well Depth: Slot Size: **0.020''** Filter Material: #10-20 Silica Sand Well Seal: Bentontite and Cement Logged By: C. Gardner Swabbed, bailed, pumped Development Method: Graphic Log SCS Group Symbo Elevation (feet) Depth (feet) Sample No Lithology Sample Description Remarks Well **CLAYEY SAND** (0-1.5 feet) Descriptions of drilled cuttings based Dry, loose, no odor. on ASTM Method D-2488 (the Predominately medium to fine sand with trace coarse sand to visual-manual procedure), grain-size \sim 5 mm and \sim 20% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and low determinations and nomenclature based on the Unified Soil Classification toughness, are brown, and have a weak reaction to HCl. System. Munsell colors described wet. 4350 Horizontal survey data is expressed in the Nevada State Plane system, CLAYEY SAND (1.5-8 feet) Dry to moist, medium dense, no odor. Predominately medium to fine sand with trace coarse sand to Nevada West zone, in feet. \sim 5 mm and \sim 20% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and low toughness, are brown, and have a weak reaction to HCl. Sharp contacts indicated by solid lines, gradational contacts indicated by dashed line. All depths are below land surface unless stated otherwise. 5 WELL DESIGN for B/W-9D: Screened Interval: 144.8-164.8 feet. Bottom of sump: 165 feet. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 4345 Cement Grout: 0-132.2 feet. Bentonite Chips: 132.2-142.5 feet. Filter Pack: #60 Sand 142.5-143.5 feet, #10-20 Sand 143.5-165.5 feet. SANDY LEAN CLAY (8-9.5 feet) Depth to Water Measuring Point is Dry to moist, stiff, no odor. Top of PVC Casing. Predominately silt and clay with ~40% medium to fine sand Top of PVC Elevation: 4,353.84 feet, to 1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are grayish brown PVC Stick-up: 2.5 feet above land (10YR 5-2), and have a strong reaction to HCl. surface. SM SANDY LEAN CLAY (10.5-12 feet) Dry to moist, stiff, no odor.

BORING LOG

B/W-9 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 2 of 13 \mathbf{X} Monitoring Well Soil Boring Sheet Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Predominately silt and clay with ~30% medium to fine sand to 1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR CL 5-3), and have a weak to strong reaction to HCl SANDY LEAN CLAY (10.5-12 feet) Dry to moist, stiff, no odor. Predominately silt and clay with ~30% medium to fine sand 4340 to 1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5-3), and have a weak to strong reaction to HCl. SM SILTY SAND (12-14 feet) Dry, medium dense, no odor. Predominately medium to fine sand with ~5% coarse sand to 4 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are light brown, and do not react to HCl. **CLAYEY SAND** (14-15 feet) Dry to moist, medium dense, no odor. Predominately fine sand (<0.5 mm) with ~35% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and low toughness, are brown, and do not 15 ∖react to HCl. SILTY SAND (15-15.5 feet) Moist, medium dense, no odor. Predominately medium to fine sand with trace fine gravel to 5 CL mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic and are CL light brown 4335 SANDY LEAN CLAY (15.5-15.75 feet) Dry to moist, soft, no odor. Predominately silt and clay with ~40% medium to fine sand to 0.5 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 4-3), and do not react to HCl. **SILTY SAND** (15.75-16 feet) Moist, loose, no odor. Predominately medium to fine sand with trace fine gravel to 5 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic and are light brown SANDY LEAN CLAY (16-21.5 feet) Dry to moist, stiff, no odor. Predominately silt and clay with ~40% medium to fine sand (<0.5 mm). The sand is subangular to subrounded. The SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 fines have medium plasticity and toughness, are brown (10YR 4-3), and do not react to HCl. 20 4330 CLAYEY SAND (21.5-22 feet) Moist, medium dense, no odor. Predominately medium to fine sand with trace fine gravel to 10 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines have medium plasticity and low toughness, are brown, and do not react to HCl SP-WELL-GRADED SAND with SILT (22-22.5 feet) Moist, medium dense, no odor.

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B/W-9 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 3 of 13 Monitoring Well Sheet Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Predominately medium to fine sand with trace coarse sand to ~5 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl.

POORLY-GRADED SAND with SILT (22.5-22.75 feet) Moist, dense, no odor. Predominately medium to fine sand to 1 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl.

WELL-GRADED SAND (22.75-25.5 feet) 25 Saturated, medium dense, no odor. Predominately medium to fine sand with ~5% fine gravel to 12 mm and ~5% silt and clay. The sand and gravel are SP subangular to subrounded. The fines are nonplastic and are POORLY-GRADED SAND (25.5-25.75 feet) Saturated, medium dense, no odor.
Predominately fine sand (<0.5mm) with ~5% silt and clay. SP The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. SILTY SAND (25.75-26.25 feet) Moist, dense, no odor. SM Predominately fine sand (<0.5mm) with ~25% silt and clay. The sand is subangular to subrounded. The fines have low plasticity and toughness, are brown, and do not react to HCl. **POORLY-GRADED SAND** (26.25-26.75 feet) Saturated, dense, no odor. Predominately fine sand (<0.5mm) with ~5% silt and clay. 31 SW-The sand is subangular to subrounded. The fines are - 92 SM nonplastic, are brown, and do not react to HCl **@** SANDY LEAN CLAY (26.75-27 feet) B/W-9 Dry to moist, firm, no odor. Predominately silt and clay with ~40% medium to fine sand (<0.5 mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 4-3), and do not react to HCl. SW-POORLY-GRADED SAND with SILT (27-28.25 feet) 30 Saturated, medium dense, no odor. Predominately medium to fine sand to 2 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl WELL-GRADED SAND with SILT (28.25-29.5 feet) Moist, dense, no odor. CL Predominately medium to fine sand with ~5% fine gravel to 4320 8mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are grayish brown, and do not react to HCl. **SANDY LEAN CLAY** (29.5-29.75 feet) Dry to moist, firm, no odor. SW to 0.5 mm. The sand is subangular to subrounded. The fines YERINGTON.GPJ BRN&CALD.GDT 1/31/06 have medium plasticity and toughness, are brown (10YR 4-3), and do not react to HCl. WELL-GRADED SAND with SILT (29.75-31 feet) Predominately medium to fine sand with trace fine gravel to 6 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are yellowish brown, and do not react to HCl. **SANDY LEAN CLAY** (31-32.25 feet) Dry to moist, stiff, no odor. Predominately silt and clay with ~40% fine sand (<0.5mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5-3), and do not react to HCl. SONIC METHOD LOG WELL-GRADED SAND (32.25-33 feet) 35 Saturated, medium dense, no odor. Predominately medium to fine sand to 1 mm with ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. CLAYEY SAND (33-34 feet)

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B/W-9 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 **4** of **13** \mathbf{X} Monitoring Well Sheet Soil Boring Project Number: SCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 4315 Moist, stiff, no odor. Predominately medium to fine sand to 1 mm with ~45% silt and clay. The sand is subangular to subrounded. The fines CL have medium plasticity and toughness, are brown, and do not SW react to HCl. CLAYEY SAND (34-34.75 feet) Moist, medium dense, no odor. Predominately medium to fine sand with ~10% coarse sand to 4 mm and ~45% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl. WELL-GRADED SAND (34.75-35 feet) Saturated, medium dense, no odor. Predominately medium to fine sand to 1 mm with ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl SANDY LEAN CLAY (35-35.5 feet) Moist, hard, no odor. Predominately silt and clay with ~40% medium to fine sand to 1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 40 -43 Ft 4-3), and do not react to HCl. WELL-GRADED SAND with SILT (35.5-36.75 feet) 38 Saturated, medium dense, no odor. Predominately medium to fine sand with ~10% fine gravel to **@** B/W-9 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl.

SANDY LEAN CLAY (36.75-37 feet) 4310 Moist, stiff, no odor. Predominately silt and clay with ~35% medium to fine sand and ~5% coarse sand to 3 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are dark grayish brown (10YR 4-2), and do not react to HCl. WELL-GRADED SAND (37-38.25 feet) Saturated, medium dense, no odor. CL Predominately medium to fine sand to 1 mm with ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl WELL-GRADED SAND (38.25-43 feet) Saturated, medium dense, no odor. Predominately coarse to medium sand with ~15% fine sand, -5% fine gravel to 8 mm, and ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. SANDY LEAN CLAY (43-45.25 feet) Moist, stiff, no odor. 45 Predominately silt and clay with ~35% medium to fine sand 1/31/06 and ~5% coarse sand to 3 mm. The sand is subangular to subrounded. The fines have medium plasticity and CL toughness, are dark grayish brown (10YR 4-2), and do not SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT react to HCl. SANDY LEAN CLAY (45.25-45.5 feet) SW-4305 Moist, hard, no odor. Predominately silt and clay with ~40% medium to fine sand to 2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (7.5YR) CL 5-4), and do not react to HCl. SANDY LEAN CLAY (45.5-46 feet) Moist, no odor. Predominately silt and clay with ~50% medium to fine sand to 2 mm. The sand is subangular to subrounded. The fines have medium plasticity and low toughness, are brown (10YR 3), and do not react to HCl. WELL-GRADED SAND with SILT (46-46.75 feet) Saturated, medium dense, no odor. Predominately coarse to medium sand with ~15% fine sand, ~10% fine gravel to 8 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are

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B/W-9 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 5 of 13 \mathbf{X} Monitoring Well Sheet Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well nonplastic, are brown, and do not react to HCl. SANDY LEAN CLAY (46.75-47.5 feet) Moist, firm, no odor. CL Predominately silt and clay with ~50% medium to fine sand 50 to 2 mm. The sand is subangular to subrounded. The fines have medium plasticity and low toughness, are brown (10YR 4-3), and do not react to HCl. SANDY LEAN CLAY (47.5-49.5 feet) Moist, stiff, no odor. Predominately silt and clay with ~40% fine sand (<0.5mm). CL The fines have medium plasticity and low toughness, are 4300 brown (10YR 5-3), and do not react to HCl **LEAN CLAY** (49.5-51 feet) Dry to moist, hard, no odor. Predominately silt and clay with ~10% fine sand (<0.5mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5-3), and do not react to HCl. SANDY LEAN CLAY (51-54 feet) Dry to moist, firm to hard, no odor. Predominately silt and clay with ~30% fine sand (<0.5mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5-3) to yellowish brown (10YR 5-4), and have a strong reaction to HC1. CL **LEAN CLAY** (54-55 feet) Dry to moist, hard, no odor. Predominately silt and clay with ~10% fine sand (<0.5mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5-3), and 55 have a strong reaction to HCl.

SANDY LEAN CLAY
Moist, hard, no odor. Predominately silt and clay with ~35% medium to fine sand to 1.5 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are dark yellowish brown (10YR 4-4), and do not react to HCl. SILTY SAND (56-57.5 feet) SM Saturated, medium dense, no odor. Predominately medium to fine sand with ~5% coarse sand to 3 mm and $\sim 20\%$ silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. SANDY LEAN CLAY (57.5-58.75 feet) Moist, hard, no odor. Predominately silt and clay with ~35% medium to fine sand to 1.5 mm. The sand is subangular to subrounded. The fines BRN&CALD.GDT 1/31/06 have medium plasticity and toughness, are dark yellowish brown (10YR 4-4), and do not react to HCl. **CLAYEY SAND** (58.75-59.5 feet) SC Moist, dense, no odor. Predominately medium to fine sand to 1 mm with ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not react to HCl SONIC METHOD LOG YERINGTON.GPJ SILTY SAND (59.5-61 feet) Moist, medium dense, no odor. Predominately medium to fine sand to 1 mm with ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. SANDY SILT (61-61.75 feet) ML 4290 Moist, stiff, no odor. Predominately silt and clay with ~40% medium to fine sand to 2 mm. The sand is subangular to subrounded. The fines have low plasticity and toughness, are brown (10YR 5-3), and do not react to HCl WELL-GRADED SAND (61.75-64 feet)

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B/W-9 **Yerington Groundwater Investigation** Project Name: Well Number: 121243.021 <u>6</u> of <u>13</u> ${f X}$ Monitoring Well Soil Boring Project Number: Sheet Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Saturated, medium dense, no odor. Predominately medium to fine sand with trace coarse sand to ~5 mm and ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. 60 - 65 Ft **@** CLAYEY SAND (64-67.5 feet) Moist, dense, no odor. Predominately fine sand (<0.5mm) with ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have a 65 weak reaction to HCl. 4285 SANDY LEAN CLAY (67.5-70.75 feet) Dry to moist, hard, no odor. CL Predominately silt and clay with ~40% medium to fine sand and ~5% fine gravel to 8 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness and are brown (10YR 4-3). 70-WELL-GRADED SAND with SILT (70.75-71.5 feet) Saturated, medium dense, no odor. Predominately medium to fine sand with trace fine gravel to 5 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 CL brown, and do not react to HCl. SANDY LEAN CLAY (71.5-78.5 feet) Dry to moist, hard, no odor. Predominately silt and clay with ~30% medium to fine sand to 1.5 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are grayish brown (10YR 5-2), and do not react to HCl.

BORING LOG

B/W-9 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 7 of 13 Soil Boring Monitoring Well Sheet Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 4275 WELL-GRADED SAND with SILT (78.5-80 feet) Saturated, medium dense, no odor. Predominately medium to fine sand with ~5% coarse sand to 3 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. 80 78 - 83 Ft WELL-GRADED SAND (80-81.75 feet) Saturated, medium dense, no odor. Predominately medium to fine sand with trace fine gravel to 10 mm and ~5% silt and clay. The sand is subangular to B/W-9@ subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. 4270 SM **SILTY SAND** (81.75-83.75 feet) Saturated, dense, no odor. Predominately fine sand (<0.5mm) with ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. WELL-GRADED SAND with SILT (83.75-84.5 feet) SM Saturated, medium dense, no odor. Predominately medium to fine sand with trace coarse sand to 3 mm and ~10% silt and clay. The sand is subangular to 1/31/06 subrounded. The fines are nonplastic, are light brown, and have a weak to strong reaction to HCl. SILTY SAND (81.75-83.75 feet) SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT Dry to moist, very dense, no odor. Predominately medium to fine sand to 0.5 mm with ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and have a weak to strong reaction to HCl. WELL-GRADED SAND (85-86.5 feet) 4265 Saturated, medium dense, no odor. Predominately coarse to medium sand to 4 mm and ~5% silt CL and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. SANDY LEAN CLAY (86.5-87.5 feet) Dry to moist, hard, no odor. Predominately silt and clay with ~35% medium to fine sand to 1.5 mm. The sand is subangular to subrounded. The fines SW have medium plasticity and toughness, are brown (10YR 5-3), and have a strong reaction to HCl. **WELL-GRADED SAND** (87.5-88 feet) Saturated, medium dense, no odor.

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B/W-9 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 8 of 13 Monitoring Well Sheet Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Predominately coarse to medium sand to 4 mm and ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. SANDY LEAN CLAY (88-89 feet) Dry to moist, hard, no odor. Predominately silt and clay with ~30% medium to fine sand to 1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 90 4-3), and do not react to HCl. **SILTY SAND** (89-90.75 feet) Saturated, medium dense, no odor. Predominately medium to fine sand to 1 mm with ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. **LEAN CLAY** (90.75-91 feet) 4260 Dry to moist, firm, no odor. Predominately silt and clay with ~10% fine sand (<0.5mm). The fines have medium plasticity and toughness, are reddish brown (5YR 5-3), and have a strong reaction to HCl. CLAYEY SAND (91-93 feet) Moist, medium dense, no odor. Predominately medium to fine sand with $\sim 10\%$ coarse sand to 3 mm and $\sim 25\%$ silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. <u>CLAYEY SAND</u> (93-94 feet) Moist, dense, no odor. Predominately medium to fine sand with ~10% coarse sand to 3 mm and ~25% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and low toughness, are brown, and have a weak reaction to HCl SANDY LEAN CLAY (94-96.75 feet) Dry to moist, hard, no odor. Predominately silt and clay with ~30% medium to fine sand to 1 mm. The sand is subangular to subrounded. The fines 95 have medium plasticity and toughness, are brown (10YR 4-3), and do not react to HCl. 4255 SC **CLAYEY SAND** (96.75-98.5 feet) Dry to moist, dense, no odor. Predominately fine sand (<0.5mm) and ~30% silt and clay. The sand is subangular to subrounded. The fines have YERINGTON.GPJ BRN&CALD.GDT 1/31/06 medium plasticity and toughness, are brown, and do not react to HCl. **SILTY SAND** (98.5-100.5 feet) Moist, medium dense, no odor. Predominately fine sand (<0.5mm) with ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. SONIC METHOD LOG **SILTY SAND** (100.5-101 feet) Moist to saturated, medium dense, no odor. Predominately medium to fine sand with trace coarse sand to 3 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not

BORING LOG

B/W-9 **Yerington Groundwater Investigation** Project Name: Well Number: 121243.021 9 of 13 ${f X}$ Soil Boring Monitoring Well Project Number: Sheet SCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well react to HCl. CLAYEY SAND (101-102 feet) Dry to moist, dense, no odor. Predominately fine sand (<0.5mm) and ~20% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and low toughness, are brown, and do not react to HCl. CLAYEY SAND (102-104 feet) Moist, medium dense, no odor. Predominately fine sand (<0.5mm) and ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and low toughness, are brown, and do not react to HCl. CLAYEY SAND (104-105 feet) SC Dry to moist, dense, no odor. Predominately fine sand (<0.5mm) and ~20% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and low toughness, are brown, and do not 105 ∖<u>react to H</u>Cl. **CLAYEY SAND** (105-109.5 feet) Moist, medium dense, no odor. Predominately fine sand (<0.5mm) and ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and low toughness, are brown, and do not react to HCl. 4245 **LEAN CLAY** (109.5-118 feet) Dry to moist, hard, no odor. Predominately silt and clay with ~10% fine sand (<0.5mm). 110-The sand is subangular to subrounded. The fines have medium plasticity and high toughness, are brown (10YR 4-3) and dark gray (2.5Y 4-1), and have a strong to no reaction to SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 4240

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B/W-9 **Yerington Groundwater Investigation** Project Name: Well Number: 121243.021 Sheet <u>10</u> of <u>13</u> ${f X}$ Soil Boring Monitoring Well Project Number: ISCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 115 4235 SANDY LEAN CLAY (118-120 feet) Dry to moist, hard, no odor. CL Predominately silt and clay with ~40% medium to fine sand and ~5% coarse sand to 4 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 4-3), and do not react to HCl. 120 SM **SILTY SAND** (120-121 feet) Saturated, medium dense, no odor. Predominately medium to fine sand to 0.5 mm with ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. **SILTY SAND** (121-121.5 feet) 4230 Saturated, medium dense, no odor. Predominately medium to fine sand to 0.5 mm and ~15% silt SW and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl.

WELL-GRADED SAND (121.5-122 feet) SM Saturated, medium dense, no odor. Predominately medium to fine sand with trace coarse sand to 3 mm and $\sim 5\%$ silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not @ 121 - 126 Ft react to HCl. SILTY SAND (122-127 feet) Saturated, medium dense, no odor. Predominately medium to fine sand to 0.5 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 are nonplastic, are brown, and do not react to HCl. B/W-9 125 4225 CL SANDY LEAN CLAY (127-132.5 feet) Dry to moist, hard, no odor. Predominately silt and clay with ~40% fine sand (<0.5mm).

BORING LOG

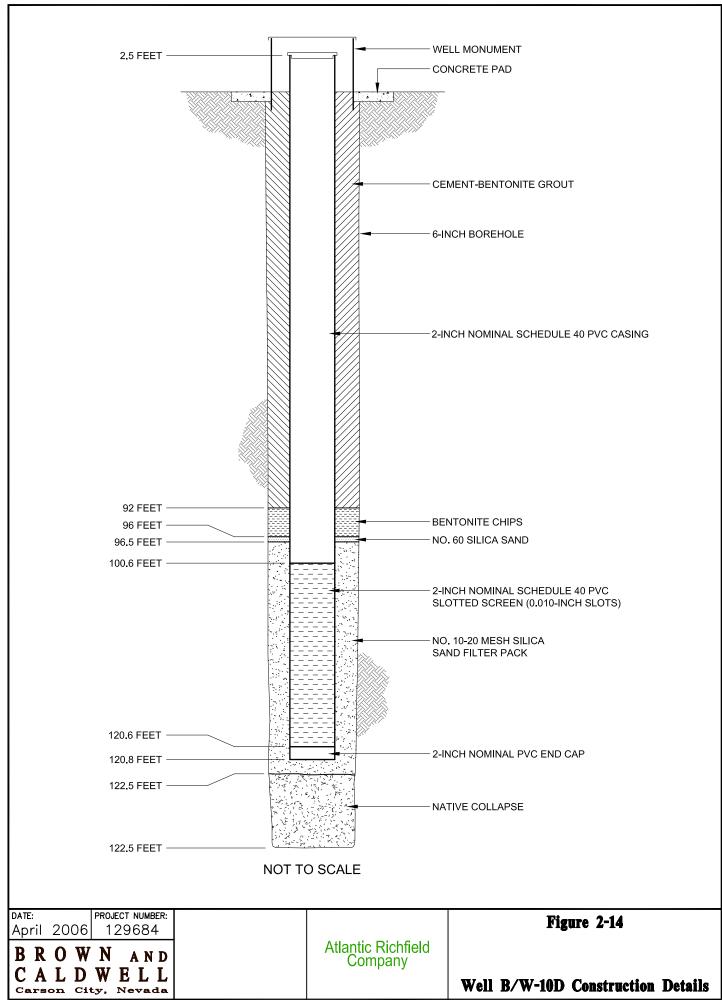
B/W-9 **Yerington Groundwater Investigation** Project Name: Well Number: 121243.021 Sheet 11 of 13 Monitoring Well ${f X}$ Soil Boring Project Number: ISCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well The sand is subangular to subrounded. The fines have medium plasticity and low toughness, are dark gray (GLEY N4-1), and do not react to HCl. 130 4220 POORLY-GRADED SAND (132.5-135 feet) Saturated, dense, no odor. Predominately medium to fine sand to 1 mm with ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. 135 **CLAYEY SAND** (135-139.25 feet) Moist, dense, no odor. Predominately fine sand (<0.5mm) and ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and low toughness, are yellowish brown, and do not react to HCl. 4215 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 POORLY-GRADED SAND (139.28-140 feet) SP Saturated, dense, no odor. Predominately medium to fine sand to 2 mm with ~5% silt and clay. The sand is subangular to subrounded. The fines 140 SPare nonplastic, are reddish brown, and do not react to HCl. POORLY-GRADED SAND with SILT (140-143.25 feet) Saturated, dense, no odor. Predominately medium to fine sand to 1 mm with ~10% silt

Proje	ct Nan	ne:	Yerington Groundwater Investigation			_ v	Vell Nu	mber:	B/W-9		
Soil 1	Boring		Monitoring Well Number:					1212	43.021	Sheet <u>12</u> of	13
	t)	nbol					Graphic	Log			
Depth (feet)	Elevation (feet)	USCS Group Symbol	Description		Sample No.	Sample	Lithology	Well		Remarks	
-	4210		and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl.	-							
-				4							
-		SC	CLAYEY SAND (143.25-145 feet) Moist, dense, no odor. Predominately fine sand (<0.5mm) and ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and low toughness, are yellowish brown, and do not react to HCl.								
145 —		SP	POORLY-GRADED SAND (145-147.25 feet) Saturated, dense, no odor. Predominately medium to fine sand to 0.5 mm with ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl.	-							
-	4205			-							
-			SILTY SAND (147.25-148 feet) Saturated, dense, no odor. Predominately fine sand (<0.5mm) with ~30% silt and clay. The sand is subangular to subrounded. The fines are	_							
-		SP	nonplastic, are brown, and do not react to HCl. POORLY-GRADED SAND (148-149 feet) Saturated, dense, no odor. Predominately medium to fine sand to 0.5 mm with ~5% silt and clay. The sand is subangular to subrounded. The fines	-							
_		CL	Are nonplastic, are brown, and do not react to HCl. LEAN CLAY with SAND (149-149.5 feet)	л 							
I&CALD.GDT 1/31/06		SP	Dry to moist, hard, no odor. Predominately silt and clay with ~20% fine sand (<0.5mm). The fines have medium plasticity and toughness, are brown (10YR 5-3), and do not react to HCl. POORLY-GRADED SAND (149.5-151.5 feet) Saturated, dense, no odor. Predominately medium to fine sand to 0.5 mm with ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic and are brown.								
PJ BRN	4200							非			
SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06		CL SM	SANDY LEAN CLAY Moist, stiff, no odor. Predominately silt and clay with ~40% fine sand (<0.5mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness and are brown (10YR 4-3). SILTY SAND (152-153 feet) Saturated, medium dense, no odor. Predominately medium to fine sand to 1 mm with ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. SANDY LEAN CLAY Moist, stiff, no odor.								

BORING LOG

B/W-9 **Yerington Groundwater Investigation** Project Name: Well Number: 121243.021 Sheet <u>13</u> of <u>13</u> ${f X}$ Soil Boring Monitoring Well Project Number: SCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Predominately silt and clay with ~35% medium to fine sand to 1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5-3), and do not react or HCl. 155 **SILTY SAND** (155.5-156 feet) Moist to saturated, medium dense, no odor. Predominately medium to fine sand to 1.5 mm with ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl.

SILTY SAND (156-157 feet) Saturated, medium dense, no odor. Predominately medium to fine sand with ~10% coarse sand to 3 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl.
WELL-GRADED SAND (157-163 feet) Saturated, medium dense, no odor. Predominately medium to fine sand with ~5% coarse sand to ~5 mm with ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. 158 - 163 Ft 160 (9) B/W-9 4190 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 **SILTY SAND** (163-164 feet) Moist to saturated, medium dense, no odor. Predominately medium to fine sand to 2 mm wtih ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. **CLAYEY SAND** (164-165.5 feet) SC Moist, dense, no odor. Predominately medium to fine sand to 1 mm and ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and do not 65 react to HCl.



BORING LOG

B/W-10 Project Name: **Yerington Groundwater Investigation** Well Number: of _13 121243.021 1 Monitoring Well Soil Boring Project Number: 324460.1 East: Boring Location: North of Sunset Hills residential area North: 1569181.6 Elevation: 4341.6 feet amsl Drilling Contractor: WDC Driller: B. Zamow Date Started: 7/26/05 8/5/05 Date Finished: Total Water Depth: Drilling Equipment: Gus Pech GP24-400RS, Diedrich Sonic Head 22' / 19.49' 165.0 Depth: (feet) (feet) Well Diameter Sampling Method: Core Barrel Borehole Diameter: 6" 2-inch PVC and Material: Screened Interval Drilling Method: Sonic, utilized 6" casing and a 4.5" core barrel 100.6-120.6 ft., bottom at 120.8 ft. and Well Depth: Slot Size: **0.020''** Filter Material: #10-20 Silica Sand Well Seal: Bentontite and Cement Logged By: C. Gardner Swabbed, bailed, pumped Development Method: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No Lithology Sample Description Remarks Well Descriptions of drilled cuttings based LEAN CLAY (0-14 feet) Dry, hard, no odor. on ASTM Method D-2488 (the Primarily silt and clay with ~10% medium to fine sand and visual-manual procedure), grain-size trace coarse sand to ~3 mm. The sand is subangular to determinations and nomenclature based on the Unified Soil Classification subrounded. The fines have medium plasticity and toughness, are brown (10YR 4/3), and have a strong reaction System. Munsell colors described wet. 4340 Horizontal survey data is expressed in the Nevada State Plane system. Nevada West zone, in feet. Sharp contacts indicated by solid lines, gradational contacts indicated by dashed line. All depths are below land surface unless stated otherwise. 5 WELL DESIGN for B/W-10D: Screened Interval: 100.6-120.6 feet. Bottom of sump: 120.8 feet. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Cement Grout: 0-92 feet. 4335 Bentonite Chips: 92-96 feet. Filter Pack: #60 Sand 96-96.5 feet, #10-20 Sand 96.5-122.5 feet. Bentonite Chips: 122.5-165 feet Depth to Water Measuring Point is Top of PVC Casing. Top of PVC Elevation: 4,344.08 feet, PVC Stick-up: 2.5 feet above land surface.

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B/W-10 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 2 of 13 ${f X}$ Soil Boring Monitoring Well Sheet Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 4330 SANDY LEAN CLAY (14-15.5 feet) CL Dry, hard, no odor. Primarily silt and clay with ~50% medium to fine sand and trace coarse sand to 4 mm. The sand is subangular to subrounded. The fines have medium plasticity and 15 toughness, are brown (10YR 5/3), and do not react to HCl. WELL-GRADED SAND with GRAVEL (15.5-17 feet) Moist to dry, loose, no odor. Primarily coarse to medium sand with ~20% fine gravel to ~15 mm and ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are 4325 brown, and do not react to HCl. SM | SILTY SAND with GRAVEL (17-18 feet) Moist, medium dense, no odor. Primarily coarse to medium sand with ~40% gravel and ~25% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. **SILTY SAND** (18-19.5 feet) Moist to dry, medium dense, no odor. Primarily medium to fine sand with ~15% coarse sand, ~5% fine gravel to ~8 mm, and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 **GRAVELLY LEAN CLAY with SAND** (19.5-20.5 feet) CL Moist, hard, no odor. 20 Primarily silt and clay with ~20% sand and ~30% gravel to ~25 mm. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 4/3), and do not react to HCl. SM SILTY SAND with GRAVEL (20.5-21 feet) Dry, medium dense, no odor. Primarily medium to fine sand with ~20% gravel and ~20% SW silt and clay. The sand is subangular to subrounded, the gravel is subrounded. The fines have low plasticity and 4320 toughness, are brown, and do not react to HCl. WELL-GRADED SAND (21-24.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with \sim 5% gravel to \sim 25 mm and \sim 5% silt and clay. The sand is subangular to subrounded, the gravel is subrounded to rounded. The fines are nonplastic, are brown, and do not react to HCl.

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B/W-10 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 3 of 13 \mathbf{X} Monitoring Well Soil Boring Sheet Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well WELL-GRADED SAND (24.5-25 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~1.5 mm with trace silt and 25 SW clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl.

WELL-GRADED SAND with GRAVEL (25-26 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~20% fine sand, ~35% gravel to ~30 mm, and trace silt and clay. The sand is subangular to subrounded, the gravel is subangular to rounded. The fines are nonplastic, are brown, and do not 4315 react to HCl. WELL-GRADED SAND with GRAVEL (26-27.5 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~35% gravel to ~30 mm and ~5% silt and clay. The sand is subangular to subrounded, the gravel is subangular to rounded. The fines are nonplastic, are light brown, and do not react to HCl. WELL-GRADED SAND (27.5-29.5 feet) ~ Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% coarse sand to ~4 26 mm with trace silt and clay. The sand is subangular to B/W-10@ subrounded. The fines are nonplastic, are light brown, and do not react to HCl. GW-GM (29.5-30 feet) WELL-GRADED GRAVEL with SILT and SAND Saturated, medium dense, no odor. 30 Primarily gravel to ~20 mm with ~20% medium to fine sand, ~15% coarse sand, and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular to rounded. The fines are nonplastic, are brown, and do not react to HCl. **SILT** (30-32 feet) Moist, soft, no odor. Primarily silt and clay with ~10% medium to fine sand to ~1 4310 mm. The sand is subangular to subrounded. The fines have low to medium plasticity and low toughness, are olive brown (2.5Y 4/3), and do not react to HCl. Some black organic SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 streaks LEAN CLAY (32-32.5 feet)
Dry to moist, stiff, no odor. ML Primarily silt and clay with ~10% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. **SILT** (32.5-33.5 feet) CL Moist, soft, no odor. Primarily silt and clay with ~10% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have low to medium plasticity and low toughness, are olive brown (2.5Y 4/3), and do not react to HCl. Some black organic streaks **LEAN CLAY** (33.5-35.5 feet) Dry to moist, stiff, no odor. 35 Primarily silt and clay with ~10% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. Some black organic streaks. **LEAN CLAY** (35.5-37.5 feet) Moist, very soft, no odor.

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B/W-10 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 **4** of **13** \mathbf{X} Monitoring Well Soil Boring Sheet Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily silt and clay with \sim 20% medium to fine sand and trace coarse sand to \sim 3 mm. The sand is subangular to 4305 subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. Some black organic streaks. CL SANDY LEAN CLAY (37.5-38.5 feet) Moist, stiff, no odor. Primarily silt and clay with ~30% medium to fine sand and trace fine gravel to ~15 mm. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to SW-HCl SM WELL-GRADED SAND with GRAVEL (38.5-40.5 feet) Saturated, loose, no odor. Primarily medium to fine sand with ~20% coarse sand, ~25% gravel to ~25 mm, and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular to rounded. The fines are nonplastic, are brown, and do not react to HCl. 40 CL SANDY LEAN CLAY (40.5-41.5 feet) Moist, hard, no odor. Primarily silt and clay with ~35% medium to fine sand and trace coarse sand to ~4.5 mm. The sand is subangular to subrounded. The fines have medium plasticity and 4300 toughness, are brown (10YR 4/3), and do not react to HCl. SILTY SAND with GRAVEL (41.5-44.5 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~15% fine sand, ~15% gravel to 20 mm, and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, are brown, and do not react to HCl. SILTY SAND with GRAVEL (44.5-48.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~15% coarse sand, ~15% 45 fine gravel to ~15 mm, and ~15% silt and clay. The sand SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. 4295 **SILTY SAND** (48.5-49 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~10% fine gravel to ~15 mm and ~20% silt and clay. The sand and gravel are

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B/W-10 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 5 of 13 Soil Boring Monitoring Well Sheet Project Number: SCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well subangular to subrounded. The fines are nonplastic, and are WELL-GRADED SAND (49-55 feet) Saturated, medium dense, no odor. 50 Primarily medium to fine sand with ~5% gravel to ~25 mm with ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are light brown, and do not react to HCl. 4290 50 - 55 Ft B/W-10 55 WELL-GRADED SAND with SILT (55-58 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% fine gravel to ~15 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. From 55-56.5 feet the interval has elongated gravel, from 56.5-58 the interval has no gravel. 4285 WELL-GRADED SAND with GRAVEL (58-59 feet) Saturated, medium dense no odor. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Primarily medium to fine sand with ~20% coarse sand, ~15% fine gravel to ~15 mm, and ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are light brown, and do not react to HCl.

WELL-GRADED GRAVEL with SILT and SAND (59-60 feet) GM Saturated, medium dense, no odor. Primarily gravel to ~25 mm with ~15% medium to fine sand, ~15% coarse sand, and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular to SW-I rounded. The fines are nonplastic, are brown, and do not react to HCl. SM **SILTY SAND** (60-60.25 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~15% coarse sand, ~5% gravel to 20 mm, and ~20% silt and clay. The sand is subangular to subrounded, the gravel is subrounded to 4280 rounded. The fines are nonplastic, are reddish brown, and to not react to HCl. Red oxidized staining.

WELL-GRADED SAND with GRAVEL (60.25-63.5 feet) Saturated, medium dense, no odor.

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B/W-10 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 6 of 13 \mathbf{X} Monitoring Well Soil Boring Sheet Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily medium to fine sand with ~15% gravel to ~25 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular to rounded. The fines are nonplastic, are brown, and do not react to HCl. No gravel in the interval from 61.5-63.5 WELL-GRADED SAND (63.5-64.5 feet) Saturated, loose, no odor. Primarily medium to fine sand with ~5% gravel to ~25 mm with trace silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. Some reddish brown iron oxide streaks at WELL-GRADED SAND (49-55 feet) 65 Saturated, medium dense, no odor. Primarily medium to fine sand with $\sim 10\%$ gravel to ~ 20 mm with trace silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. @ 64 - 69 Ft 4275 B/W-10 WELL-GRADED GRAVEL with SAND (67-69.5 feet) Saturated, medium dense, no odor. Primarily gravel to ~20 mm with ~15% coarse to medium sand and trace silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. **LEAN CLAY with SAND** (69.5-72 feet) Moist to saturated, loose, no odor. Primarily silt and clay with ~20% fine sand (<0.5 mm). The 70 sand is subrounded. The fines have low to medium plasticity and low toughness, are dark yellowish brown (10YR 4/4), and do not react to HCl. Interval has some reddish brown iron oxide streaks. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 4270 POORLY-GRADED SAND with SILT (72-73.5 feet) SM Saturated, medium dense, no odor. Primarily medium to fine sand (<0.5 mm) with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are reddish brown, and do not react to HCl. **LEAN CLAY with SAND** (73.5-74.5 feet) CL Moist to saturated, soft to stiff, no odor. Primarily silt and clay with ~20% fine sand (<0.5 mm). The sand is subrounded. The fines have low to medium plasticity and low toughness, are olive brown (2.5Y 4/3), and do not react to HCl. SW-WELL-GRADED SAND with SILT (74.5-79 feet) Saturated, medium dense, no odor. Primarily medium to fine sand to ~2 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are

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B/W-10 Yerington Groundwater Investigation Well Number: Project Name: Monitoring Well 121243.021 7 of 13 ${f X}$ Soil Boring Project Number: Sheet ISCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well nonplastic, are brown, and do not react to HCl. <u>426</u>5 SW WELL-GRADED SAND with GRAVEL (79-84 feet)
Saturated, medium dense, no odor.
Primarily medium to fine sand with ~15% gravel to ~30 mm and ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do 80 not react to HCl. 4260 WELL-GRADED SAND with SILT (84-87.5 feet) Saturated, medium dense, no odor. primarily medium to fine sand with trace fine gravel to ~10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 85 88 5 F B/W-10 @ 83.5 4255 SM **SILTY SAND** (87.5-89.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~25% coarse sand, trace fine gravel to ~10 mm, and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are

BORING LOG

B/W-10 Yerington Groundwater Investigation Project Name: Well Number: 121243.021 **8** of **13** ${f X}$ Monitoring Well Soil Boring Project Number: Sheet SCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well nonplastic, are brown, and do not react to HCl. **LEAN CLAY with SAND** (89.5-92 feet) Moist, hard, no odor. Primarily silt and clay with \sim 20% fine sand (<0.5 mm). The 90 sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. Some black organic streaks. 4250 **LEAN CLAY with SAND** (94.5-95 feet) CL Moist, stiff to hard, no odor. Primarily silt and clay with ~20% medium to fine sand to ~1.5 mm. The sand is subangular to subrounded. The fines low to medium plasticity and low toughness in the upper and lower portions of the interval, medium plasticity and toughness in the middle portion of the interval, are brown (10YR 5/3), and do not react to HCl. Some black organic 95 4245 WELL-GRADED SAND (97-101 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace fine gravel to ~10 YERINGTON.GPJ BRN&CALD.GDT 1/31/06 mm with ~5% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and do not react to HCl. SONIC METHOD LOG WELL-GRADED SAND (101-102.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to ~20 mm

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B/W-10 Yerington Groundwater Investigation Project Name: Well Number: of <u>13</u> 121243.021 9 ${f X}$ Monitoring Well Soil Boring Project Number: Sheet SCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well with ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular. The fines are nonplastic, B/W-10 @ 100 - 105 Ft are brown, and do not react to HCl. SW WELL-GRADED SAND (102.5-107 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with $\sim 10\%$ gravel to ~ 25 mm with ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. 105 4235 **LEAN CLAY** (107-107.5 feet) Moist, stiff, no odor. Primarily silt and clay with ~10% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are dark grayish brown (10 YR 4/2), and do not react to HCl. WELL-GRADED SAND with SILT (107.5-115 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace fine gravel to ~6 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. Increased grain size (includes ~15% angular to subrounded gravel to ~25 mm) between ~114 and 115 feet. 110-SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 4230

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B/W-10 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>10</u> of <u>13</u> \mathbf{X} Monitoring Well Soil Boring Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 115 WELL-GRADED GRAVEL with SILT and SAND GM (115-116.5 feet) Saturated, medium dense, no odor. Primarily gravel to 40 mm with $\sim 15\%$ sand and $\sim 10\%$ silt and clay. The sand is subangular to subrounded, the gravel is angular to rounded. The fines are nonplastic, are brown, and do not react to HCl. SW **WELL-GRADED SAND** (116.5-122.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace fine gravel and ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. WELL-GRADED SAND with GRAVEL (119.5-121.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~15% gravel to ~30 mm 120 and ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl. SW **WELL-GRADED SAND** (121.5-122.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace fine gravel to ~6 120 - 125mm and ~5% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl.

WELL-GRADED SAND with GRAVEL (122.5-124 feet) B/W-10 Saturated, medium dense, no odor. Primarily medium to fine sand with ~15% coarse sand, ~20% gravel to ~30 mm, and ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular to subrounded. The fines are nonplastic, are brown, and do not SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 react to HCl. WELL-GRADED SAND (124-124.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace fine gravel to ~10 mm and ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines 125 are nonplastic, are brown, and do not react to HCl. **WELL-GRADED SAND with SILT** (124.5-127.75 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~20% fine sand, trace fine gravel to ~9 mm, and ~10% silt and clay. The sand is subangular to subrounded, the gravel is angular to subrounded. The fines are nonplastic, are light brown, and do not react to HCl. 4215

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Soil	Soil Boring Monitoring Well Nonitoring Well Project Number				:	121243.021 Sheet 11 of 1				
	et)	/mbol			_	G	iraphi	c Log		
Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Sample No.	ort ordring	Sample	Lithology	Well		Remarks
_		ML	SANDY SILT (127.75-128.5 feet) Moist, firm, no odor.							
-			Primarily silt and clay with ~30% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have low plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. SANDY LEAN CLAY (128.5-129.5 feet) Moist, stiff, no odor. Primarily silt and clay with ~30% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have							
130-		ML	medium plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. SANDY SILT (129.5-130.5 feet) Moist, firm, no odor. Primarily silt and clay with ~30% medium to fine sand to ~1					2		
-	4210	CL	mm. The sand is subangular to subrounded. The fines have low plasticity and toughness, are brown (10YR 5/3), and do not react to HCl. LEAN CLAY (130.5-132 feet) Moist, hard, no odor. Primarily silt and clay with ~10% sand (<0.5 mm). The sand							
_		CM	is subangular to subrounded. The fines have medium plasticity and toughness, are light olive brown (2.5Y 5/3),							
-		SM	and have a strong reaction to HCl. SILTY SAND with GRAVEL (132-133 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~20% gravel to ~20 mm and ~25% silt and clay. The sand and gravel are angular to							
-			subangular. The fines have low plasticity and toughness, are brown, and to not react to HCl. LEAN CLAY (130.5-132 feet)							
-		SM	Moist, hard, no odor. Primarily silt and clay with ~10% sand (<0.5 mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness, are light olive brown (2.5Y 5/3), and have a strong reaction to HCl.							
-		SC	SILTY SAND with GRAVEL (132-133 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~20% gravel to ~20 mm							
135 —		CL	and ~25% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, are brown, and to not react to HCl. CLAYEY SAND (134.5-135 feet) Moist to saturated, dense, no odor.							
-	1	SM	Primarily medium to fine sand with ~5% fine gravel to ~12 mm and ~35% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and					Z 5 6 8		
90)	4205	SM	toughness and are brown. LEAN CLAY with SAND (135-136 feet)					<u>0</u> 70 61 14		
LD.GDT 1/31,		SW	Moist, hard, no odor. Primarily silt and clay with ~20% medium to fine sand to ~1.5 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and do not react to HCl.			•				
GPJ BRN&C			SILTY SAND (136-136.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace fine gravel to ~8 mm and ~15% silt and clay. The sand is subangular to	-		•				
SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 5			subrounded, the gravel is subrounded. The fines are nonplastic, are brown, and do not react to HCl. SILTY SAND (136.5-137 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% fine gravel to ~10	-						
907 GOHL			mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl. WELL-GRADED SAND (137-145 feet)	1						
SONIC M.			Saturated, medium dense, no odor. Primarily coarse to medium sand with ~15% fine sand, ~5% gravel to ~30 mm, and ~5% silt and clay. The sand and	-						

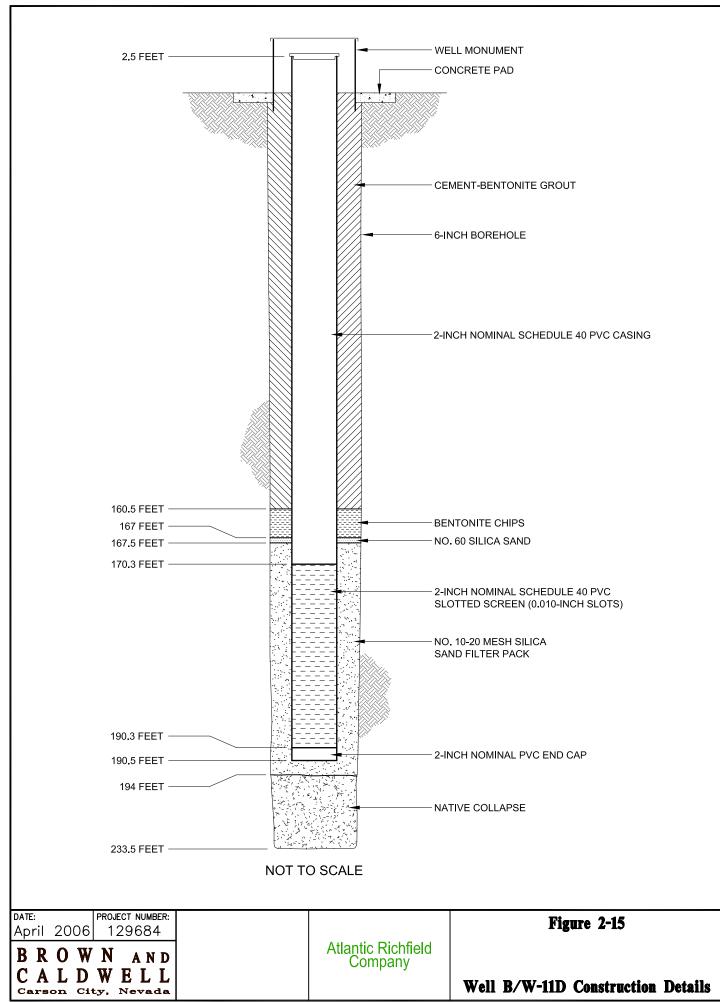
	Yerington Groundwater Investigation		_ \	Well Nu	mber:	B/W-10
Soil Boring	Monitoring Well X Project Num	ber:	_		121243.0	21 Sheet 12 of 13
Depth (feet) Elevation (feet) USCS Group Symbol	Description	Sample No.	Sample	Fraphic Prithology	Log Mell	Remarks
- <u>4200</u> - - -	gravel are subrounded. The fines are nonplastic, are brown, and do not react to HCl. The interval from 145-147.5 feet has ~15% gravel to 50 mm. The gravel is subrounded.	B/W-10 @ 140 - 145 Ft.				
145 — SW - 4195 —	WELL-GRADED SAND (145-147.5 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~15% fine sand, ~15% gravel to ~50 mm, and ~5% silt and clay. The sand and gravel are subrounded. The fines are nonplastic, are brown, and do not react to HCl.					
GW- GM	WELL-GRADED GRAVEL with SILT (147.5-149.5 feet) Saturated, dense, no odor. Primarily gravel to ~30 mm with ~10% coarse to medium sand and ~10% silt and clay. The sand is angular to subrounded, the gravel is subangular to subrounded. The fines are nonplastic, are dark brown, and do not react to HCl.					
CL CL SM	LEAN CLAY (149.5-151 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~10% medium to fine sand to ~1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 4/3 to 10YR 5/3), and do not react to HCl.					
SM SMEHOD FOR JERNING	SILTY SAND (152-153.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace coarse sand to ~4.5 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl.					
ા ન ⊢—ી	SILTY SAND (153.5-154 feet)	1	1			

BORING LOG

Well Number: **B/W-10** Project Name: **Yerington Groundwater Investigation** 121243.021 Sheet <u>13</u> of <u>13</u> ${f X}$ Monitoring Well Soil Boring Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Saturated, dense, no odor. CL Primarily medium to fine sand with trace fine gravel to ~8 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. SANDY LEAN CLAY (154-154.5 feet) 155 GW-Dry to moist, hard, no odor. GM Primarily silt and clay with ~20% coarse to medium sand and ~10% fine gravel to ~15 mm. The sand and gravel are GW- angular to subangular. The fines have medium plasticity and GM toughness, are yellowish brown (10YR 5/4), and have a strong reaction to HCl.

SILTY SAND with GRAVEL (154.5-155 feet) Saturated to moist, medium dense, no odor. 4185 Primarily coarse to medium sand with ~20% fine gravel to ~15 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are yellowish brown, and have a strong reaction to HCl. WELL-GRADED GRAVEL with SILT and SAND (155-155.5 feet) Saturated, medium dense, no odor. Primarily gravel to ~75 mm with ~20% coarse to medium sand and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are olive brown, and have a strong reaction to HCl.

WELL-GRADED GRAVEL with SILT and SAND (155.5-160 feet) Saturated, medium dense, no odor. Primarily gravel to ~55 mm with ~25% coarse to medium sand and ~10% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl. 160 CL **SANDY LEAN CLAY** (160-161.75 feet) Moist, stiff, no odor. Primarily silt and clay with ~30% sand and trace fine gravel to ~15 mm. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, are light yellowish brown (2.5Y 6/3), and have a strong reaction to HCl. 4180 CL SANDY LEAN CLAY (154-154.5 feet) Moist to dry from 161.75-162 feet, dry from 162-165 feet, very hard, no odor. Primarily silt and clay with ~35% coarse to medium sand and ~10% gravel to 20 mm. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 are yellowish brown (7.5YR 5/2), and have a strong reaction to HCl. 165



BORING LOG

B/W-11 Project Name: **Yerington Groundwater Investigation** Well Number: of **19** 121243.021 1 Monitoring Well Soil Boring Project Number: Sheet 321936 East: Boring Location: On mine site, near lined evaporatin ponds North: Elevation: 4368.1 feet amsl 1554614.6 Drilling Contractor: WDC Date Started: 9/28/05 9/27/05 Driller: **B. Zamow** Date Finished: Total Water Depth: Drilling Equipment: Gus Pech GP24-400RS, Diedrich Sonic Head 45' / 35.84' 233.5 Depth: (feet) (feet) Well Diameter Sampling Method: Core Barrel Borehole Diameter: 6" 2-inch PVC and Material: Screened Interval Drilling Method: Sonic, utilized 6" casing and a 4.5" core barrel 170.3-190.3 ft., bottom at 190.5 ft. and Well Depth: Well Seal: Bentontite and Cement Slot Size: **0.020''** Filter Material: #10-20 Silica Sand Logged By: C. Gardner Swabbed, bailed, pumped Development Method: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No Lithology Sample Description Remarks Well Vat Leach Tailings (0-2.25 feet) Descriptions of drilled cuttings based Dry, loose, no odor. on ASTM Method D-2488 (the Primarily coarse to medium sand with visual-manual procedure), grain-size ~40% gravel to 20 mm and ~20% silt and clay. The sand and determinations and nomenclature based on the Unified Soil Classification gravel is angular. The fines are nonplastic, yellow, and do not System. Munsell colors described wet. Horizontal survey data is expressed in the Nevada State Plane system. WELL-GRADED SAND WITH SILT (2.25-7.75 feet) Dry, medium dense, no odor. Nevada West zone, in feet. Primarily medium to fine sand with trace gravel to ~5mm and ~10% silt and clay. The sand is subangular to subrounded, 4365 the gravel is subangular. The fines are nonplastic, brown, and Sharp contacts indicated by solid lines, react strongly to HCl. gradational contacts indicated by dashed line. All depths are below land surface unless stated otherwise. 5 WELL DESIGN B/W-11D: Screened Interval: 170.3-190.3 feet. Bottom of sump: 190.5 feet. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Cement Grout: 0-160.5 feet. Bentonite Chips: 160.5-167 feet. Filter Pack: #60 Sand 167-167.5 feet, #10-20 Sand 167.5-194 feet. Bentonite Chips: 194-233.5 feet CLAYEY SAND (7.75-8.5 feet) Dry, medium dense, no odor. SC 4360 Primarily medium to fine sand with trace gravel to $\sim 10 \text{ mm}$ and ~35% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium Top of PVC Elevation: 4,370.60 feet plasticity and toughness, are brown, and react strongly to amsl. PVC Stick-up: 2.5 feet above land SILTY SAND (8.5-9.5 feet) surface. Dry, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to ~10 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are

BORING LOG

B/W-11 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 2 of 19 Monitoring Well Sheet Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well nonplastic, brown, and react strongly to HCl. **SILTY SAND** (9.5-10.5 feet) Dry, medium dense, no odor. SM Primarily coarse to fine sand with ~10% gravel to ~12 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines SM are nonplastic, brown, and have a strong to no reaction to HCl. SILTY SAND with GRAVEL (10.5-11 feet) Dry, medium dense, no odor. Primarily coarse to medium sand with ~15% gravel to ~20 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, brown, and have a strong to no reaction to WELL-GRADED SAND with SILT and GRAVEL 4355 (11-13.5 feet) Dry, medium dense, no odor. Primarily coarse to medium sand with ~20% gravel to ~40mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is angular. The fines are nonplastic, brown, and have a strong reaction to HCl SILTY SAND with GRAVEL (13.5-14.75 feet) Dry, medium dense, no odor. Primarily coarse to fine sand with ~20% gravel to ~20 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are 15 nonplastic, reddish brown, and have no reaction to HCl SANDY LEAN CLAY (14.75-15 feet) Dry to moist, hard, no odor. CL Primarily silt and clay with ~45% medium to coarse sand and trace gravel to ~5 mm. The sand is subangular to subrounded, the gravel is angular to subangular. The fines have medium plasticity and toughness, are dark yellowish brown (10YR 4/6), and do not react to HCl. CLAYEY SAND (15-15.5 feet) Dry, dense, no odor. Primarily medium to fine sand with trace gravel to ~10 mm and ~25% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have a weak reaction to HCl.

SANDY LEAN CLAY (15.5-16 feet) 4350 Dry to moist, hard, no odor. Primarily silt and clay with ~45% medium to coarse sand and CL trace gravel to ~5 mm. The sand is subangular to subrounded, the gravel is angular to subangular. The fines SW-have medium plasticity and toughness, are dark yellowish brown (10YR 4/6), and do not react to HCl. 1/31/06 CLAYEY SAND with GRAVEL (16-18.25 feet) SM Dry, dense, no odor. Primarily medium to fine sand with ~15% gravel to ~8 mm BRN&CALD.GDT and ~20% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium 20 plasticity, low toughness, are brown, and have noreaction to **SANDY LEAN CLAY** (18.25-18.75 feet) SC Dry to moist, stiff, no odor. SONIC METHOD LOG YERINGTON.GPJ Primarily silt and clay with ~40% medium to coarse sand to ~2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and do not react to HCl. WELL-GRADED SAND WITH SILT (18.75-19 feet) Dry to moist, medium dense, no odor. Primarily medium to fine sand with trace coarse sand to 3mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and do not react to HCl **SILTY SAND** (19-19.5 feet) Dry, dense, no odor.

BORING LOG

B/W-11 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 3 of 19 \mathbf{X} Monitoring Well Sheet Soil Boring Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SM Primarily medium to fine sand with trace gravel to ~5 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and do not react to HCl. **CLAYEY SAND** (19.5-20.5 feet) Dry, dense, no odor. Primarily medium to fine sand with trace gravel to ~5 mm and ~30% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have no reaction to 25 CLAYEY SAND (20.5-23 feet) Dry, dense, no odor. Primarily medium to fine sand with trace gravel to ~10 mm and ~25% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have a weak reaction to HCl. SILTY SAND with GRAVEL (23-24.5 feet) Dry, medium dense, no odor. Primarily coarse to medium sand with ~40% gravel to ~20 mm and ~20% silt and clay. The sand and gravel is angular to subangular. The fines are nonplastic, yellowish brown, and have no reaction to HCl SILTY SAND with GRAVEL (24.5-26.5 feet) Dry, dense, no odor. Primarily coarse to fine sand with ~30% gravel to ~20 mm 4340 and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, brown, and have no reaction to HCl **SILTY SAND** (26.5-28.5 feet) Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to ~10 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular. The fines are nonplastic, brown, and have no reaction to HCl. CLAYEY SAND (28.5-30 feet) 30 Dry to moist, dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and have no reaction to HCl. WELL-GRADED SAND with SILT (30-32 feet) Dry, medium dense, no odor. Primarily medium to fine sand with trace gravel to ~15 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is angular. The fines are nonplastic, brown, and have no reaction to HCl. SILTY SAND (32-33 feet) SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to ~12 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular. The fines are nonplastic, brown, and have no reaction to HCl. SC CLAYEY SAND (33-33.5 feet) Dry, dense, no odor. Primarily medium to fine sand to ~2 mm with ~40% silt and SC clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have no reaction to HCl.

CLAYEY SAND (33.5-36 feet) Dry to moist, dense, strong acid odor. Primarily medium to fine sand with trace gravel to ~10 mm and ~35% silt and clay. The sand is subangular to 35 subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have no reaction to HCl.

BORING LOG

B/W-11 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 **4** of **19** ${f X}$ Soil Boring Monitoring Well Sheet Project Number: Graphic Log USCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SC CLAYEY SAND (36-38 feet) Dry to moist, dense, strong acid odor. Primarily medium to fine sand with trace gravel to ~10 mm and ~35% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have no reaction to HCl. 4330 SM **SILTY SAND** (38-41.5 feet) Dry to moist, dense, strong acid odor. Primarily medium to fine sand with ~10% gravel to ~8 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is angular. The fines have low plasticity and toughness, brown, and have no reaction to HCl. 40 CLAYEY SAND (41.5-45 feet) Moist, dense, strong acid odor. Primarily medium to fine sand with ~5% gravel to ~30 mm and ~30% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines have medium plasticity and toughness, are brown, and have no reaction to HCl. 4325 45 WELL-GRADED SAND with SILT and GRAVEL (45-46.5 feet) SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Saturated, medium dense, strong acid odor. Primarily coarse to medium sand with ~15% gravel to ~20mm and ~10% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and have no reaction to HCl. CLAYEY SAND (46.5-49 feet) SC Moist, medium dense, strong acid odor. 50 Ft. Primarily medium to fine sand with ~10% coarse sand to ~3 mm and ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, 45 are brown, and have no reaction to HCl. (e) B/W-11 4320 SM SILTY SAND (49-50.5 feet)

BORING LOG

B/W-11 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 5 of 19 Soil Boring Monitoring Well Sheet Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Saturated, medium dense, strong acid odor. Primarily medium to fine sand with ~10% gravel to ~20 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular. The fines are nonplastic, 50 brown, and have no reaction to HCl. WELL-GRADED SAND with SILT (50.5-52.5 feet) Saturated, medium dense, strong acid odor. Primarily medium to fine sand with ~5% gravel to ~20 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is angular. The fines are nonplastic, brown, and have no reaction to HCl. **SILTY SAND** (52.5-55 feet) Dry to moist, medium dense, strong acid odor.
Primarily medium to fine sand with ~10% gravel to ~20 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular. The fines are nonplastic, brown, and have no reaction to HCl. 55 **SILTY SAND** (55-55.75 feet) Dry to moist, dense, strong acid odor. Primarily medium to fine sand with ~5% gravel to ~8 mm and ~15% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, and have no reaction to HCl CLAYEY SAND (55.75-59 feet) Dry to moist, dense, strong acid odor. Primarily medium to fine sand with ~10% coarse sand to ~4 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have no reaction to HCl. 4310 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 CLAYEY SAND (59-62.5 feet) Dry to moist, dense, strong acid odor. Primarily medium to fine sand with trace gravel to \sim 5 mm and \sim 30% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have no reaction to HCl.

BORING LOG

B/W-11 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 6 of 19 ${f X}$ Soil Boring Monitoring Well Sheet Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well SC **CLAYEY SAND** (62.5-66.75 feet) Dry to moist, dense, strong acid odor. Primarily medium to fine sand with ~5% coarse sand to ~5 4305 mm and ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have no reaction to HCl. 65 **SILTY SAND** (66.75-68 feet) Dry to moist, dense, strong acid odor. Primarily medium to fine sand with ~5% gravel to ~5 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is angular. The fines are nonplastic, brown, and have no reaction to HCl. 4300 SC CLAYEY SAND (68-70 feet) Moist, dense, strong acid odor. Primarily medium to fine sand with ~5% gravel to ~8 mm and ~25% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have no reaction to HCl. 70 SM SILTY SAND (70-72 feet) Moist, dense, strong acid odor. Primarily medium to fine sand with trace coarse sand to ~5 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and have no reaction to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 CLAYEY SAND (72-74.5 feet) Moist, medium dense, strong acid odor. Primarily medium to fine sand with trace gravel to ~10 mm and ~30% silt and clay. The sand and gravel is subangular to subrounded. The fines have medium plasticity and toughness, 4295 are brown, and have no reaction to HCl. **SILTY SAND** (74.5-75.5 feet) Dry to moist, dense, strong acid odor. Primarily medium to fine sand with $\sim 10\%$ gravel to ~ 10 mm and ~25% silt and clay. The sand is subangular to

BORING LOG

B/W-11 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 7 of 19 ${f X}$ Soil Boring Monitoring Well Sheet Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well subrounded, the gravel is angular. The fines have low SM plasticity and toughness, are brown, and have no reaction to **SILTY SAND** (75.5-76.25 feet) Dry to moist, dense, strong acid odor. Primarily medium to fine sand with ~10% gravel to ~10 mm and ~25% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl.

SILTY SAND with GRAVEL (76.25-77.75 feet) @ 75 - 80 Ft Saturated, medium dense, strong acid odor. Primarily coarse to medium sand with ~15% gravel to ~10 mm and ~15% silt and clay. The sand and gravel is subangular to subrounded. The fines are nonplastic, brown, B/W-11 4290 and have no reaction to HCl. **SILTY SAND** (77.75-79 feet) Moist, medium dense, strong acid odor. Primarily medium to fine sand with ~15% coarse sand to ~5 mm and ~25% silt and clay. The sand is subangular to angular. The fines have low plasticity and toughness, are light brown, and have no reaction to HCl. SILTY SAND (79-80 feet) Saturated, medium dense, strong acid odor. Primarily medium to fine sand with ~10% gravel to ~12 mm and ~20% silt and clay. The sand and gravel is subangular to 80 angular. The fines are nonplastic, brown, and have no reaction to HCl CLAYEY SAND (80-88 feet) Moist, dense, strong acid odor. Primarily medium to fine sand with ~15% coarse sand to ~5 mm and ~25% silt and clay. The sand is subangular to angular. The fines have medium plasticity and toughness, are brown, and have no reaction to HCl. 4285 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 85 SM SILTY SAND (88-90 feet) Saturated, medium dense, strong acid odor.

BORING LOG

B/W-11 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 **8** of **19** ${f X}$ Soil Boring Monitoring Well Sheet Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Primarily medium to fine sand with ~5% coarse sand to ~5 mm and ~15% silt and clay. The sand is subangular to angular. The fines are nonplastic, brown, and have no reaction to HCl. 90 CLAYEY SAND (90-91.5 feet) Dry to moist, dense, strong acid odor. Primarily medium to fine sand with ~15% coarse sand to ~5 mm and ~25% silt and clay. The sand is subangular to angular. The fines have medium plasticity, low toughness, are brown, and have no reaction to HCl. CLAYEY SAND (91.5-94 feet) Dry, very dense, strong acid odor. Primarily medium to fine sand with \sim 5% gravel to \sim 10 mm and \sim 35% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have no reaction to HCl. 4275 SILTY SAND (94-95 feet) Dry to moist, dense, strong acid odor. Primarily medium to fine sand with ~5% coarse sand to ~5 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and have no 95 reaction to HCl. SM SILTY SAND (95-98 feet) Saturated and medium dense from ~95-96 feet, moist and dense from ~96-98 feet, strong acid odor. Primarily medium to fine sand with trace gravel to ~8 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl. @ 95 - 100 Ft YERINGTON.GPJ BRN&CALD.GDT 1/31/06 4270 SC CLAYEY SAND (98-103 feet) Dry to moist, dense, strong acid odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and have no reaction to HCl. SONIC METHOD LOG

BORING LOG

B/W-11 Project Name: **Yerington Groundwater Investigation** Well Number: of **_19** 121243.021 \mathbf{X} Soil Boring Monitoring Well Sheet Project Number: Graphic Log ISCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 4265 SC **CLAYEY SAND** (103-105.5 feet) Moist, dense, strong acid odor. Primarily medium to fine sand with ~5% gravel to ~8 mm and ~30% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have no reaction to HCl. 105 SM | SILTY SAND (105.5-108.5 feet) Saturated and medium dense from 105.5-106.5 feet, moist and dense from 106.5-108.5 feet, strong acid odor. Primarily medium to fine sand with $\sim 10\%$ gravel to ~ 15 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have low plasticity and toughness, are brown, and have no reaction to 4260 **CLAYEY SAND** (108.5-109.5 feet) Moist, dense, acid odor. Primarily medium to fine sand with trace gravel to ~12 mm and ~30% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have no reaction to SM **SILTY SAND** (109.5-110.5 feet) 110-Dry to moist, dense, weak acid odor. Primarily medium to fine sand with trace gravel to ~10 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 nonplastic, brown, and have no reaction to HCl. **SILTY SAND** (110.5-113 feet) Dry to moist, dense, weak acid odor. Primarily medium to fine sand with ~5% gravel to ~8 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have slight plasticity, low toughness, are brown, and have no reaction to HCl. SC CLAYEY SAND (113-115 feet) Dry to moist, dense, weak acid odor. Primarily medium to fine sand with ~5% gravel to ~10 mm and ~30% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have no reaction to HCl.

BORING LOG

B/W-11 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet 10 of 19 \mathbf{X} Soil Boring Monitoring Well Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well 115 **SILTY SAND** (115-118 feet) Dry to moist, dense, weak acid odor. Primarily medium to fine sand with \sim 5% gravel to \sim 8 mm and ~20% silt and clay. The sand and gravel is subangular to subrounded. The fines have low plasticity and toughness, are brown, and have no reaction to HCl. SC CLAYEY SAND (118-119 feet) Moist, dense, slight acid odor. Primarily medium to fine sand with trace gravel to ~8 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have no reaction to HCl. SM SILTY SAND (119-121.5 feet) Moist, dense, slight acid odor. Primarily medium to fine sand with ~5% coarse sand to ~5 mm and ~15% silt and clay. The sand is subangular to 120 subrounded. The fines have low plasticity and toughness, are brown, and have no reaction to HCl. CLAYEY SAND (121.5-123.5 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with $\sim 15\%$ coarse sand to ~ 5 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and have a strong reaction to HCl. Some strongly developed caliche present. 4245 SM **SILTY SAND** (123.5-125.5 feet) SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Moist, dense, no odor. Primarily medium to fine sand with ~15% coarse sand to ~5 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and have a weak reaction to HCl. 125 WELL-GRADED SILTY SAND (125.5-127 feet)
Moist to saturated, medium dense, no odor. Primarily medium to fine sand with $\sim 5\%$ gravel to ~ 10 mm and $\sim 10\%$ silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and have no reaction to HCl. SM **SILTY SAND** (127-128 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to ~8 mm

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B/W-11 Yerington Groundwater Investigation Project Name: Well Number: 121243.021 Sheet 11 of 19 ${f X}$ Monitoring Well Soil Boring Project Number: ISCS Group Symbol Graphic Log Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well and ~15% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are 4240 nonplastic, brown, and have no reaction to HCl. **WELL-GRADED SAND with SILT** (128-135.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% fine to coarse gravel to ~60 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl. 130-@ 130 - 135 Ft B/W-11 4235 135 WELL-GRADED SAND with SILT (135.5-138.75 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to ~10 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 4230 SC **CLAYEY SAND** (138.75-140 feet) Moist, dense, no odor. Primarily medium to fine sand with trace coarse sand to \sim 5 mm and \sim 20% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and have no reaction to HCl. 140 CLAYEY SAND (140-142 feet) SC Dry to moist, dense, no odor. Primarily medium to fine sand with trace coarse sand to ~4 mm and ~35% silt and clay. The sand is subangular to

BORING LOG

B/W-11 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet 12 of 19 \mathbf{X} Soil Boring Monitoring Well Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well subrounded. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. **SILTY SAND** (142-142.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace gravel to ~10 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and have no reaction to HCl. WELL-GRADED SAND with SILT (142.5-144 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to ~20 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are SM nonplastic, brown, and have no reaction to HCl. **SILTY SAND** (144-149.5 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to ~10 mm and ~20% silt and clay. The sand is subangular to 145 subrounded, the gravel is subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. SC **CLAYEY SAND** (149.5-150.5 feet) Dry, dense, no odor. SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Primarily medium to fine sand with ~10% gravel to ~10 mm 150 and ~20% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have a weak SC reaction to HCl.

CLAYEY SAND (150.5-153 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with ~5% sand to ~4 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have a weak to strong reaction to HCL SC **CLAYEY SAND** (153-154.75 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with $\sim 10\%$ gravel to ~ 12 mm and ~20% silt and clay. The sand is subangular to

BORING LOG

B/W-11 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>13</u> of <u>19</u> \mathbf{X} Monitoring Well Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have a weak to strong reaction to HCl. SM | SILTY SAND with GRAVEL (154.75-155.5 feet) 155 Dry to moist, dense, no odor. Primarily medium to fine sand with ~15% gravel to ~12 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and have a weak to strong reaction to HC1. SANDY LEAN CLAY (155.5-156 feet) Dry, hard, no odor. Primarily silt and clay with ~35% medium to fine sand and -5% gravel to ~15 mm. The sand is subangular to subrounded, the gravel is angular to subangular. The fines have medium plasticity and toughness, are brown (7.5YR 4/3), and do not react to HCl **CLAYEY SAND** (156-157.5 feet) SC Dry, dense, no odor. Primarily medium to fine sand with trace gravel to ~8 mm 4210 and ~30% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. **CLAYEY SAND** (157.5-159 feet) Dry to moist, dense, no odor. SM Primarily medium to fine sand with ~5% gravel to ~8 mm and ~25% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. SILTY SAND (159-160.9 feet) 160 Moist, dense, no odor. Primarily medium to fine sand with ~10% coarse sand to ~4 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and have no reaction to HCl 4 **CLAYEY SAND** (160.9-161 feet) 159 -Dry to moist, dense, no odor. SM Primarily medium to fine sand with ~5% gravel to ~10 mm and ~35% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium B/W-11 plasticity and toughness, are brown, and have a strong reaction to HCl WELL-GRADED SAND with SILT (161-162 feet) Moist to saturated, medium dense, no odor. Primarily medium to fine sand with ~5% coarse sand to ~4 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and have no YERINGTON.GPJ BRN&CALD.GDT 1/31/06 4205 reaction to HCl CLAYEY SAND (162-163 feet) Moist, dense, no odor. Primarily medium to fine sand with ~5% coarse sand to ~3 mm and ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness are brown, and have no reaction to HCl. CLAYEY SAND (163-164.5 feet) SC Dry to moist, dense, no odor. 65 Primarily medium to fine sand with ~5% coarse sand to ~4 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness are brown, and have no reaction to HCl. SONIC METHOD LOG **CLAYEY SAND** (164.5-165 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness are brown, and have a weak to strong reaction to HCl. CLAYEY SAND (165-165.5 feet)

BORING LOG

B/W-11 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet 14 of 19 \mathbf{X} Monitoring Well Soil Boring Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~40% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl.

CLAYEY SAND (165.5-167 feet) 4200 Dry to moist, dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness are brown, and have a weak to strong reaction to HCl. **SILTY SAND** (167-167.5 feet) Moist, medium dense, slight acid odor. SC Primarily medium to fine sand with ~15% coarse sand to ~5 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and have no 170 reaction to HCl. **CLAYEY SAND** (167.5-169.5 feet) Moist, medium dense, no odor. Primarily medium to fine sand with ~15% coarse sand to ~5 mm and ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and have a no reaction to HCl CLAYEY SAND (169.5-170.5 feet) SM Dry to moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~35% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl.

CLAYEY SAND (170.5-171.5 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 SM mm and ~35% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness are brown, and have a strong reaction to HCl. **SILTY SAND** (171.5-172 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with trace gravel to ~8 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl. CLAYEY SAND (172-173 feet) - 178 I 175 Dry to moist, dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~35% silt and clay. The sand is subangular to @ subrounded. The fines have medium plasticity and toughness are brown, and have a strong reaction to HCl.

WELL-GRADED SAND with SILT (173-177 feet) B/W-11 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to ~10 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl. SC **CLAYEY SAND** (177-178.25 feet) Moist, medium dense, no odor. Primarily medium to fine sand with ~10% coarse sand to ~5 mm and ~35% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, 4190 are brown, and have no reaction to HCl. **SILTY SAND** (178.25-180 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with ~10% coarse sand to ~3 mm and ~30% silt and clay. The sand is subangular to subrounded. The fines have low plasticity and toughness, are brown, and have no reaction to HCl.

BORING LOG

B/W-11 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>15</u> of <u>19</u> Soil Boring Monitoring Well Project Number: Graphic Log JSCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well WELL-GRADED SAND with SILT and GRAVEL SW-SM (180-181.5 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~15% gravel to ~15 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl. CLAYEY SAND (181.5-187 feet) Moist from ~181-183 feet, dry to moist from ~183 to 187 feet, dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~25% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. 4185 185 WELL-GRADED SAND (187-188.5 feet) Saturated, medium dense, slight acid odor. Primarily medium sand with ~10% coarse sand to ~5 mm and ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and have a 4180 strong to no reaction to HCl. WELL-GRADED SAND with SILT (188.5-189.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~10% coarse sand to ~5 SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and have no reaction to HCl. <u>CLAYEY SAND</u> (189.5-191 feet) Dry to moist, dense, no odor. 190 Primarily medium to fine sand with trace gravel to ~8 mm and ~35% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have a weak to no reaction to HCl. CL SANDY LEAN CLAY (191-192.5 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~40% medium to fine sand with trace gravel to ~10 mm. The sand is angular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown (7.5YR 5/4), and have a strong to no reaction to HCl. **CLAYEY SAND** (192.5-193.5 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with trace coarse sand to ~4

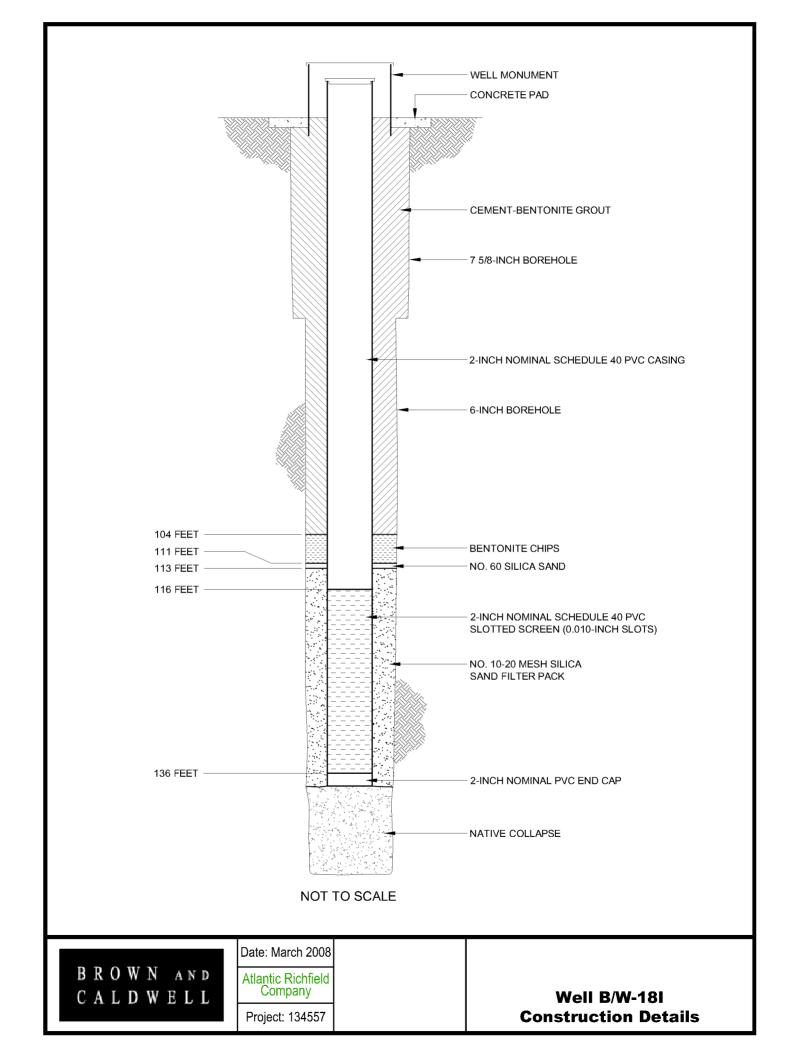
BORING LOG

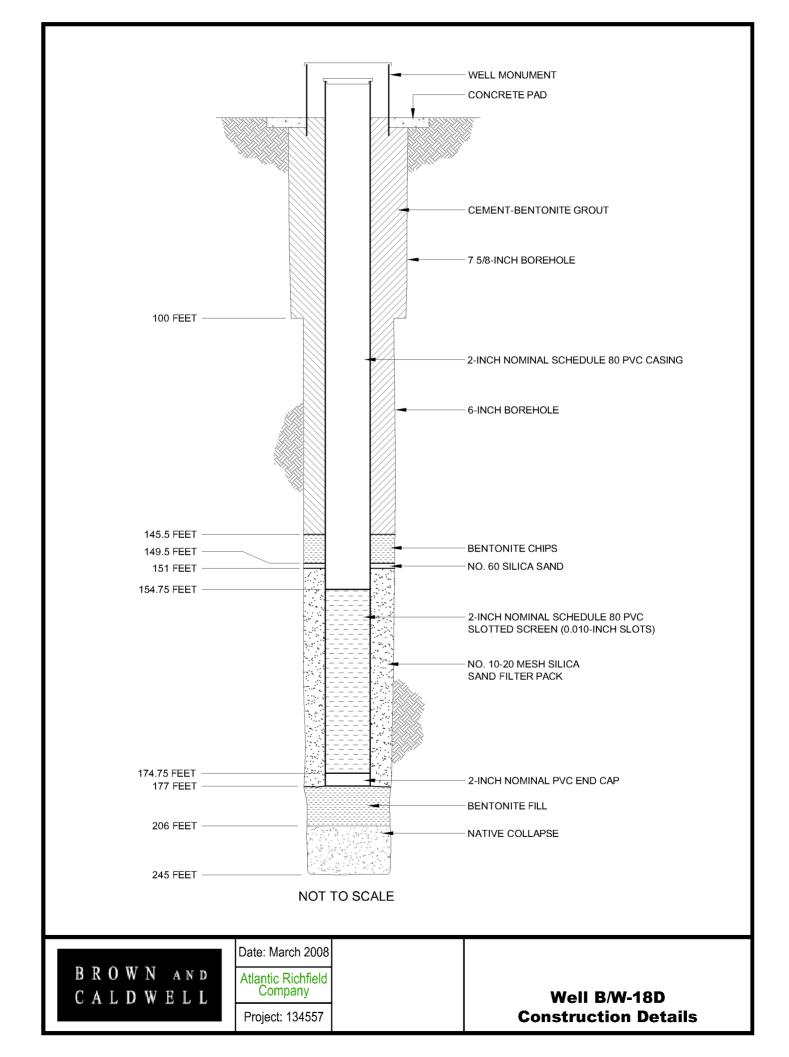
B/W-11 Project Name: **Yerington Groundwater Investigation** Well Number: 121243.021 Sheet <u>16</u> of <u>19</u> \mathbf{X} Monitoring Well Soil Boring Project Number: Graphic Log SCS Group Symbol Elevation (feet) Depth (feet) Sample No. Lithology Sample Description Remarks Well mm and ~45% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have a strong to no reaction to HCl. CL SANDY LEAN CLAY (193.5-194 feet) Dry to moist, hard, no odor. SC Primarily silt and clay with ~40% medium to fine sand with trace gravel to ~10 mm. The sand is angular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown (7.5YR 5/4), and have a strong to no reaction to HCl. 195 **CLAYEY SAND** (194-194.5 feet) SC Dry, very dense, no odor. Primarily medium to fine sand with trace coarse sand to ~4 mm and ~45% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness are brown, and have a strong reaction to HCl. CLAYEY SAND (194.5-195 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with trace coarse sand to ~3 mm and ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness 200 Ft are brown, and have a strong to no reaction to HCl. CLAYEY SAND with GRAVEL (195-195.75 feet) 195 -Moist to saturated, dense, no odor. Primarily coarse to fine sand with ~30% gravel to ~20 mm (9) and ~20% silt and clay. The sand and gravel is angular to B/W-11 subangular. The fines have medium plasticity and toughness, are brown, and have no reaction to HCl. **SILTY SAND** (195.75-198 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to ~10 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl CLAYEY SAND with GRAVEL (198-198.5 feet) Saturated, medium dense, no odor. SM Primarily medium to fine sand with ~20% gravel to ~60 mm 200 and ~20% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have no reaction to WELL-GRADED SAND with SILT (198.5-199 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace gravel to ~8 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl CLAYEY SAND with GRAVEL (199-199.5 feet) Saturated, medium dense, no odor. YERINGTON.GPJ BRN&CALD.GDT 1/31/06 Primarily medium to fine sand with \sim 20% gravel to \sim 60 mm and \sim 20% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have no reaction to 4165 WELL-GRADED SAND with SILT (199.5-200 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with trace gravel to ~8 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl SC **CLAYEY SAND** (200-201.5 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to ~10 mm and ~35% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium SONIC METHOD LOG 205 plasticity and toughness, are brown, and have a strong to no reaction to HCl. SILTY SAND with GRAVEL (201.5-204 feet) Dry to moist, dense, no odor. Primarily coarse to medium sand with ~20% gravel to ~10

Project Name: Yerington Groundwater Investigation						Vell Nu	mber:	B/W-11	
Soil Boring Monitoring Well Project Number:					: <u>121243.021</u> Sheet <u>17</u> of <u>19</u>				
Depth (feet) Elevation (feet)	USCS Group Symbol	Description		Sample No.	Sample	Lithology Lithology	Log	F	Remarks
210—	SW-SSM SSM	Imm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and have a strong reaction to HCl. CLAYEY SAND with GRAVEL (204-205 feet) Dry to moist, dense, no odor. Primarily coarse to fine sand with ~30% gravel to ~20 mm and ~40% silt and clay. The sand and gravel is angular to subangular. The fines have medium plasticity and toughness, are brown, and have no reaction to HCl. SILTY SAND (205-206 feet) Saturated, medium dense, no odor. Primarily coarse to fine sand with ~10% gravel to ~15 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and have a strong to no reaction to HCl. CLAYEY SAND with GRAVEL (206-206.5 feet) Moist to saturated, medium dense, no odor. Primarily coarse to fine sand with ~15% gravel to ~8 mm and ~30% silt and clay. The sand is angular to subangular, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. WELL-GRADED SAND with SILT and (206.5-209 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~15% gravel to ~10 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, brown, and have no reaction to HCl. SILTY SAND (209-212 feet) Moist, dense, no odor. Primarily coarse to fine sand with trace gravel to ~8 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have low plasticity and toughness, are brown, and have a weak to strong reaction to HCl. CLAYEY SAND (212-213 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with trace gravel to ~20 mm and ~40% silt and clay. The sand is subangular, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have no reaction to HCl. CLAYEY SAND (213-214 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with trace coarse sand to ~4 mm and ~30% silt and c							
30NIC WETHOD LOG YERIN	SC SC	CLAYEY SAND (217.5-218.5 feet) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% coarse sand to ~5 mm and ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. Some well-developed gravel-sized caliche is present. CLAYEY SAND (218.5-220 feet) Dry to moist, dense, no odor.							

Project Name: Yerington Groundwater Investigation						v	Vell Nu	mber:	B/W-11
Soil E	Boring		Monitoring Well	umbe	er:	_		1212	43.021 Sheet <u>18</u> of <u>19</u>
Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	,	Sample No.	Sample	Lithology Lithology	Log MeII	Remarks
- 220 — - - -		SW- SM	Primarily medium to fine sand with ~5% coarse sand to ~5 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity, low toughness, are brown, and have a strong to no reaction to \HCl. WELL-GRADED SAND with SILT (220-222.5 feet) Saturated, dense, no odor. Primarily medium to fine sand with ~10% coarse sand to ~3 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, brown, and have no reaction to HCl.	-	B/W-11 @ 219 - 224 Ft.				
2225 —	4145	CL	CLAYEY SAND (222.5-223 feet) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to ~8 mm and ~35% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. SANDY LEAN CLAY (223-224.5 feet) Dry to moist from ~223-223.5 feet, dry from ~223.5-224.5 feet, very hard, no odor. Primarily silt and clay with ~30% medium to fine sand with ~5% gravel to ~10 mm. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and have a strong reaction to HCl. CLAYEY SAND with GRAVEL (224.5-228.25 feet) Dry, very dense, no odor. Primarily coarse to fine sand with ~25% gravel to ~75 mm and ~35% silt and clay. Cobbles to ~10 cm comprise ~20% of the interval. The sand is subangular to subrounded, the gravel is angular to subangular. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl.		B				
1 1	4140	SC	CLAYEY SAND (228.25-228.75 feet)	_					
SONIC METHOD LOG YERINGTON GPJ BRN&CALD.GDT 1/31/06 CO		SC SC	Dry, very dense, no odor. Primarily medium to fine sand with trace gravel to ~10 mm and ~35% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have medium plasticity and toughness, are strong brown, and have a strong reaction to HCl. CLAYEY SAND with GRAVEL (228.75-229 feet) Dry, very dense, no odor. Primarily medium to fine sand with ~20% gravel to ~10 mm and ~35% silt and clay. The sand and gravel is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have no reaction to HCl. COBBLES with SANDY CLAY (229-233.5 feet) Dry, very dense, no odor. Primarily cobbles comprised of weathered and non weathered tuff with ~35% sandy clay. The tuff has a gray groundmass with angular to subangular clasts to ~5 mm. The sandy clay is primarily silt and clay with ~40% medium to fine sand to ~2 mm. The sand is angular to subangular. The fines have medium plasticity and toughness, and are yellowish brown (10YR 5/4). The fines have a strong reaction to HCl from						

Project Name: Yerington Groundwater Investigation					_ v	Vell Nu	mber:	B/W-11			
Soil	Boring		Monitoring Well Project Num			per: 121243.021 Sheet 19 of 19					
Depth (feet)	Elevation (feet)	USCS Group Symbol	Description		Sample No.	Sample	Lithology Lithology	Log		Remarks	
-	Elevat		~229 to 231 feet, and a weak reaction to HCl from ~231 to 233.5 feet.	to _	Sam	Sam	Litho	We			





Brown and Caldwell BORING LOG

Proje	ect Na	me: _Yer	ington Second Step Hydrogeologi	ic Framework Assessment				Pı	roject Number:	132025	
Soil I	Boring:	: M	Ionitoring Well: X Piezomet	er: Boring/Wel	ΙNι	mbe	er: <u>B</u> /	W-18	D	Sheet <u>1</u> of <u>14</u>	
Bori	ıg Loc	ation: Loc	ated 1/4 mile North on Sunset Hills F	Road Junction and 1/8 west.			thing:	~		Easting:	
Drilli	ing Co	ntractor:	Boart Longyear	Driller: R. Salois		Gro	ound St	ırface	vation: feet a Elevation: f	eet amsl	
Drilli	ng Eq	uipment: (GP24-300RS	Borehole Diameter: 6-inches	s				1/27/07	Date Finished: 12/15/07	
Drilli	ng Me	ethod: Son	ic	Drilling Fluid: Water		Completed Water Depth: 245 fbgs Depth: fbmp					
Samp	oling N	Method:	Core Barrel							STRUCTION	
Well	Seal:	Bentonite	and Cement			Typ of V	e and l Vell Ca	Diame sing:	eter 2-inch Scl	nedule 80 PVC	
Logg	ed By	: C. Straus	SS			Slo	t Size:	0.010	inch Filter M	aterial: #10-20 Silica Sand	
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material De	escription	Sample Name	Sample Location	Lithology	Well Construction		Remarks	
5—		SN SM	Silty Sand (0 - 5.5) Dry, loose, no odor. Primar with ~5% coarse sand to 5 m. The sand is subangular to su nonplastic to low plasticity an react to HCI. Lean Clay with Sand (5.5 - Dry, dense, no odor. Prima with ~5% coarse sand to 5 m. The sand is subangular to su low to medium plasticity and react to HCI. Poorly Graded Sand (12 - Dry to moist, loose, no odor sand with a maximum grains and clay. The sand is suban fines are nonplastic, and do not sand with a maximum grains and clay. The sand is suban fines are nonplastic, and do not sand with a maximum grains and clay. The sand is suban fines are nonplastic, and do not sand with a maximum grains and clay. The sand is suban fines are nonplastic, and do not sand with a maximum grains and clay. The sand is suban fines are nonplastic, and do not sand clay.	12) 12) 12) 13) 14) 15) 16) 16) 17) 18) 19 19 19 19 19 19 19 19 19 1		S .			Method D-24 grain-size det based on the System. Horizontal Su Nevada State zone, in feet. Sharp contac gradational of All depths are otherwise. WELL DESIC PVC Stickup: Cement - Bei Bentonite Ch No. 60 Silica #10-20 Silica 2-inch Nomin Slotted Scree Native Collap Additional Be	ntonite Grout: 0 - 145.5 feet ips: 145.5 - 149.5 feet Sand: 149.5 - 151 feet Sand Filter Pack: 151 - 177 feet al Schedule 80 PVC 0.010 en: 154.75 - 174.75 feet se: 206 - 245 feet ntonite Fill: 177 - 206 feet	
-		SP	Dry to moist, loose, no odor sand with a maximum grain s and clay. The sand is suban	r. Primarily medium to fine size of 2 mm and ~10% silt gular to subrounded. The							

Proj	ect Na	ıme: <u>Yer</u>	rington Second Step Hydrogeologic Framework Assessment		_		Pr	oject Number: 132025
Soil	Boring	;: M	fonitoring Well: X Piezometer: Boring/Well	l Nur	nbe	r: <u>B</u>	/W-18[Sheet <u>2</u> of <u>14</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
								B/W-18S screened from 15 - 40 feet.
-	-	CL	Lean Clay with Sand (16 - 18) Dry to moist, very dense, no odor. Primarily medium to fine sand with maximum grain size 1mm with ~40% silt and clay. The sand is subangular to subrounded. The fines have moderate to high plasticity, is very tough, and do not react to HCI.					
20-	-	SM	Silty Sand (18 - 21) Moist, dense, no odor. Primarily medium to fine sand with ~5% coarse sand to 3mm and ~ 30% fine silt and clay. The sand is subangular to subrounded. The fines have low to medium plasticity and toughness, and do not react to HCI.					
-		SM	Silty Sand (21 - 22) Moist, dense, no odor. Primarily medium to fine sand with ~5% coarse grain sand to 5mm with ~20% silt and clay. The sand is subangular to subrounded. The fines					
25-	-	SM	are nonplastic to low plasticity, is very tough, and do not react to HCI. Silty Sand (22 - 28) Moist, dense, no odor. Primarily medium to fine sand with ~10% coarse grain sand to 2mm with ~25% silt and clay. The sand is subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCI.					
	_	SM	Silty Sand (28 - 30) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~10% coarse grain sand to 5mm with ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.					
30-	-	SP	Poorly Graded Sand (30 - 32.5) Moist to saturated, dense, no odor. Primarily medium to fine sand with~10% coarse grain sand to 5mm with ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
-	-	SM	Silty Sand (32.5 - 35) Dry to moist, very dense, no odor. Primarily medium to fine sand with~15% coarse grain sand to 5mm with ~30% silt and clay. The sand is angular to subangular.					

Proj	ect Na	me:	migion Second Step Hydrogeologic Framework Assessment		—		Project N	Number:132025
Soil l	Boring	: M	Monitoring Well: X Piezometer: Boring/We	ll Nui	nbe	r: <u>B/W</u> -	18D	Sheet <u>3</u> of <u>14</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Construction	Remarks
			toughness, and do not react to HCl.					
35-		SM	Silty Sand (35 - 36.5) Moist to saturated, dense, no odor. Primarily medium to fine sand with~10% coarse grain sand to 5mm with ~20% silt and clay. The sand is angular to subangular. The fines are nonplastic, and do not react to HCI.					
40 —		CL	Sandy Lean Clay (36.5 - 49) Dry, very dense, no odor. Primarily silt and clay with ~40% medium to fine sand with maximum grain size of 1mm. The sand is angular to subangular. The fines have moderate to high plasticity, is very tough, and do not react to HCl.					
 45								
50-		SP	Poorly Graded Sand (49 - 57) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 35mm, ~20% coarse grain sand and ~ 15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCI.		• •			

	ect Na Boring		Ingion Second Step Hydrogeologic Plantework Assessment Ionitoring Well: X Piezometer: Boring/Wel	II Muu	— nho	. . B		Diject Number:
SUIL	Domig	,	tomorning went. 25 Trezonietet Burning/wen	ii i v ui	IIDE	ı. <u></u>		Sheet 0i
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
- 55 –				B/W-18D@50.5-55.5	•			
-		SM	Silty Sand (57 - 62.5) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm, and ~25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.					
60-								
- 65-		CL	Sandy Lean Clay (62.5 - 68.5) Dry to moist, very dense, no odor. Primarily silt and clay with ~35% medium to fine sand with maximum grain size ~ 2mm. The sand is angular to subangular. The fines have medium plasticity and toughness, and do not react to HCI.					
 70		SP	Poorly Graded Sand (68.5 - 71) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Silty Sand (71 - 74) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~ 30% silt		•			

Proj	ect Na	me: Yer	ington Second Step H	ydrogeologic Framewor	k Assessment				P	roject Number:	132025	
Soil I	Boring:	: M	Ionitoring Well: X	Piezometer:	Boring/Wel	l Nui	nbe	r: <u> </u>	/W-18	D		Sheet _5_ of _14_
Depth (ft)	Elevation (ft)	USCS Group Symbol	М	aterial Description		Sample Name	Sample Location	Lithology	Well Construction		Remarks	
-			subangular. The	nd and gravel are angula fines are nonplastic to land do not react to HCl.		B/W-18D@70.5-75.5	•					
75-		SP	to fine sand with	Sand (74 - 75) ed, dense, no odor. Prin ~5% gravel to 10mm, ~ 15% silt and clay. The	~15% coarse	BW						
=		SM	gravel are subang nonplastic, and do Silty Sand (75 - 7	gular to subrounded. The not react to HCl. 77)	ne fines are) _					
-		SM	to fine sand with ~25% silt and clay subrounded. The	y dense, no odor. Prim ~10% coarse grain san y. The sand is subangu fines are nonplastic, ar	d to 3mm with lar to	-						
-		SIVI	\to HCl. Silty Sand (77 - 7) Moist to saturate to fine sand with a	78.5) ed, dense, no odor. Prin ~5% gravel to 10 mm a	marily medium							
-		SM	and clay. The sar subrounded. The to HCl.	nd and gravel are suban fines are nonplastic, ar	ngular to							
80-			to fine sand with ~25% silt and clay subrounded. The	 - 82.5) y dense, no odor. Prim ~10% coarse grain san y. The sand is subangue fines are nonplastic to nd do not react to HCI. 	d to 5mm with lar to							
_		SM	Silty Sand (82.5		a a aile a a a aile a a							
-			to fine sand with and clay. The sar	ed, dense, no odor. Prin -5% gravel to 10 mm a nd and gravel are suban e fines are nonplastic, ar	and ~15% silt ngular to							
85-			No Recovery (85 Attempted to reco	5 - 96) over fallen out core with	a trapper bit.							
-								$ \setminus $				
-												
-								$\left \ \right $				
90-								$/ \setminus$				

Proj	ect Na	me: _Yer	rington Second Step Hydrogeologic Framework Assessment					roject Number:132025
Soil 1	Boring	;: M	fonitoring Well: X Piezometer: Boring/We	II Nu	mbe	r: <u>B</u>	/W-18	Sheet <u>6</u> of <u>14</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
95-		CL	Sandy Lean Clay (96 - 104) Dry to moist, very dense, no odor. Primarily silt and clay with ~5% gravel to 10 mm and ~40% medium to fine grain sand. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and do not react to HCI.					
- 100 - - -				B/W-18D@100.5-105.5				
105-		SP	Poorly Graded Sand (104 - 105.5) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~ 10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react	BA				
-		CL SP	to HCI. Sandy Lean Clay (105.5 - 106.5) Dry to moist, very dense, no odor. Primarily silt and clay with ~5% gravel to 10 mm and ~40% medium to fine grain sand. The sand and gravel are angular to					
-	-	CL	subangular. The fines have medium plasticity and toughness, and do not react to HCl. Poorly Graded Sand (106.5 - 107) Moist to saturated, dense, no odor. Primarily medium to fine sand with maximum grain size of 1 mm and ~15% silt and clay content. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCl. Lean Clay (107 - 116) Dry very dense, no odor. Primarily silt and clay with					

Proje	Project Name:Yerington Second Step Hydrogeologic Framework Assessment Project Number:132025									
Soil I	Boring:	: M	Monitoring Well: X Piezometer: Bor	ring/Well Nເ	ımb	er:B	W-18D	Sheet <u>7</u> of <u>14</u>		
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Samble Name	Sample Location	Lithology	Well Construction	Remarks		
- 115 —			~40% medium to fine grained sand with a maximur grain size of 1mm. The sand is angular to subangu. The fines have moderate to high plasticity, is very tough, and do not react to HCl.	n ular.						
120 —		SW	Well-Graded Sand (116 - 124) Saturated, dense, no odor. Primarily medium to fi sand with ~5% coarse grain sand 2mm with ~10% and clay. The sand is subangular to subrounded. fines are nonplastic, and do not react to HCl.	silt				B/W-18I screened from 116 - 136 feet.		
- 125 — - -		SM	Silty Sand (124 - 126) Moist, very dense, no odor. Primarily medium to find sand with a maximum grain size 1mm and ~30% sit and clay content. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCl. Poorly Graded Sand with Silt (126 - 130) Saturated, dense, no odor. Primarily medium to find sand with ~5% coarse grain sand to 5 mm with ~15 silt and clay. The sand is subangular to subrounded The fines are nonplastic, and do not react to HCl.	react						

Proj	Project Name:Yerington Second Step Hydrogeologic Framework Assessment Project Number:132025										
Soil 1	Boring	:[M	onitoring Well: X Piezometer: Boring/Wel	l Nur	nbe	r:B	/W-18D	0 44			
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks			
130 –		SM	Silty Sand (130 - 130.5)	1							
-	-	SP	Moist, dense, no odor. Primarily medium to fine sand with ~5% coarse grain sand to 5 mm and ~25% silt and clay. The sand is subangular to subrounded. The fines								
		SM	are nonplastic, and do not react to HCl. Poorly Graded Sand with Silt (130.5 - 131)								
-		SC	Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.								
135-			Silty Sand (131 - 132) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.								
			Clayey Sand (132 - 135.5) Moist, dense, no odor. Primarily medium to fine sand	-							
-		SP SM	with ~10% gravel to 10 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, and do not react to HCl.								
-			Poorly Graded Sand (135.5 - 136) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.								
140-			Silty Sand (136 - 143) Moist, very dense, no odor. Primarily medium to fine sand with~10% gravel to 20mm, ~10% coarse grain sand and ~ 20% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic, and do not react to HCl.								
-											
- -		SC	Clayey Sand (143 - 145) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, and do not react to HCl.								
145		SM	Silty Sand (145 - 147) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.								
		SC	Clayey Sand (147 - 149) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~25% silt and clay. The gravel is angular to subangular and the sand								

Proj	ect Na	me: <u>Yer</u>	ington Second Step Hydrogeologic Framework Assessment			Pı	oject Number: 132025
Soil 1	Boring	;: \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Ionitoring Well: X Piezometer: Boring/Well	l Nu	mbe	r: <u>B/W-18</u>	Sheet <u>9</u> of <u>14</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology Well Construction	Remarks
			is subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCl.				
150-		SM	Silty Sand (149 - 151) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.	49-154	•		
-	-	SC	Clayey Sand (151 - 159) Moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to 30 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.	B/W-18D@149-154	•		
155-	-				•		B/W-18D screened from 154.75 to 174.75 feet.
-							
160-	_	SC	Clayey Sand (159 - 161) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.	-			
-		SW	Well-Graded Sand (161 - 164) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.				
165-		SM	Silty Sand (164 - 165) Moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded.				
=	-	SW	The fines are nonplastic, and do not react to HCl. Well-Graded Sand with Gravel (165 - 175) Saturated, dense, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react				

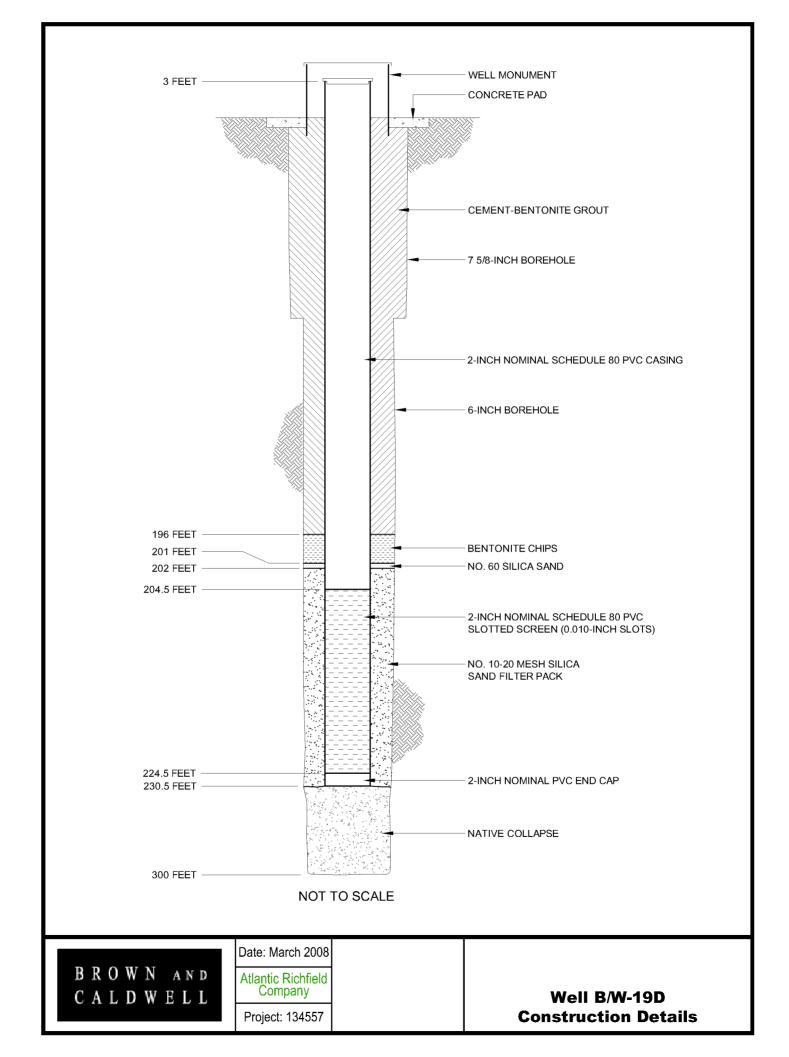
_	ect Na Boring		Ingion Second Step Hydrogeologic Planework Assessment Ionitoring Well: X Piezometer: Boring/Wel	l Nu	mbe	r: <u>B</u>		Sheet 10 of 14
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
- 170 – -				B/W-18D@167-172				
- 175 – -	_	SC	Clayey Sand (175 - 180) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 25 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.	-				
- 180 – -	-	SP	Poorly Graded Sand (180 - 183) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.	-				
- 185 –	_	SC	Clayey Sand (183 - 188.5) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.					

Proj	ect Na	ıme: <u>Yer</u>	rington Second Step Hydrogeologic Framework Assessment				Projec	ct Number:132025
Soil	Boring	g: M	Ionitoring Well: X Piezometer: Boring/Wel	l Nui	nbe	r: <u>B</u> /	W-18D	Sheet <u>11</u> of <u>14</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
			Silty Sand (188.5 - 189)					
190 –	-	SM SC	Moist to saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl. Clayey Sand (189 - 197) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~30%					
			silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.					
195-								
		SM	Silty Sand (197 - 204) Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~40% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCl.					
200 -	_							
205-		SM	Silty Sand (204 - 212.5) Dry to moist, dense, no odor. Primarily medium to fine sand with a maximum grain size of 2 mm and ~35% silt and clay content. The sand is subangular to					

Proj	ect Na	me: Yer	rington Second Step Hydrogeologic Framework Assessment		_		Project 1	Number: <u>132025</u>
Soil 1	Boring	: M	Monitoring Well: X Piezometer: Boring/V	/ell Nu	mbe	r: <u>B</u>	s/W-18D	Sheet <u>12</u> of <u>14</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
- - 210 - - - - - -		SM	subrounded. The fines are nonplastic, and do not react to HCl. Silty Sand (212.5 - 216.5) Dry to moist, dense, no odor. Primarily medium to fine sand with a maximum grain size of 1 mm and ~40% silt and clay content. The sand is subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCl.		•			
- - 2220 — -		SM	Silty Sand (216.5 - 217.5) Saturated, dense, no odor. Primarily fine sand with ~30% medium grain sand to 1 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCl. Silty Sand (217.5 - 226) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.	BW-18D@215-220				
-								

Proj	ect Na	me: Yer	ington Second Step Hydrogeo	logic Framework As	ssessment		_		Pro	oject Number:	132025				
Soil l	Boring:	: M	Ionitoring Well: X Piezon	meter:	Boring/Well	Nun	nbe	r: <u>B</u>	/W-18D)		Sheet _	<u>13</u>	of _1	4
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material	Description		Sample Name	Sample Location	Lithology	Well Construction	F	Remarks				
225-															
-		SM	Silty Sand (226 - 230) Dry to moist, very dense to fine sand with ~10% gr and clay. The sand and g subangular. The fines are and toughness, and do no	avel to 25 mm and gravel are angular to e nonplastic to low g	~25% silt										
-		SC	Clayey Sand (230 - 233) Dry to moist, very dense to fine sand with ~5% gra and clay. The sand and g subangular. The fines ha toughness, and do not rea	, no odor. Primarily vel to 15 mm and ~ gravel are angular to ve low plasticity and	-30% silt										
- 235 — -		SC	Clayey Sand (233 - 237) Dry, very dense, no odor sand with ~10% gravel to clay. The sand and grave The fines are nonplastic to toughness, and do not rea	r. Primarily medium 20 mm and ~35% el are angular to sub to low plasticity and	silt and										
-		SM	Silty Sand (237 - 240) Dry, dense, no odor. Pri with ~5% gravel to 15 mm sand and gravel are subar fines are nonplastic, and of	n and ~25% silt and ngular to subrounde	l clay. The ed. The										
- - -		SW	Well-Graded Sand with Moist to saturated, densito fine sand with ~5% grained clay. The sand and gradular subrounded. The fines are to HCl.	e, no odor. Primari vel to 10 mm and ~ gravel are subangula	-15% silt ar to										

rioj	ect Na	me: _Yer	ington Second Step Hydrogeologic Framework Assessment		_		Pr	oject Number: <u>132025</u>
Soil 1	Boring	: M	fonitoring Well: X Piezometer: Boring/Well	Nur	nbe	r: _B/	W-18[Sheet <u>14</u> of <u>14</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
245-			Bottom of Borehole at 245 feet below ground surface.					



Brown and Caldwell BORING LOG

·			ington Second Step Hydrogeologi				_		oject Number:		16
Soil B			fonitoring Well: X Piezomet		8			W-19	<u>υ</u>	Sheet 1 o	f <u>10</u>
			Mason Pass road, 1 mile north of the		on.		thing: of PV	C Ele	vation: feet a	Easting:	
Drilling Contractor: Boart Longyear Driller: R. Salois						Gro	und S e Star	urface	Elevation: fe	eet amsl Date Finished: 6/13/07	
Drillin	ıg Eqi	uipment: (GP24-300RS	Borehole Diameter:6-inches					30/07		
Drillin	ıg Me	thod: Son	ic	Drilling Fluid: Water	_	Dep	npleteo	300) fbgs	Water Depth: fbmp	
Sampl	ling N	lethod: (Core Barrel		_					STRUCTION	
Well S	Seal:	Bentonite	and Cement			of V	e and Vell Ca	Diame sing:	2-inch Scl	hedule 80 PVC	
Logge	d By:	C. Gardr	ner, C. Strauss, and R. Banda			Slot	Size:	0.010	inch Filter M	aterial: #10-20 Silica Sano	i
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material De	escription	Sample Name	Sample Location	Lithology	Well Construction		Remarks	
5-		SW-SM	Well-Graded Sand with Silt Dry,loose, no odor. Primarily ~20% gravel to 25 mm and ~ sand and gravel are angular are nonplastic, and have a st Some gravel up to 6" which a some gravel up to 6" which a sand and gravel to 20 mm and ~ sand and gravel are angular sand and gravel are angular sand and gravel are angular sand sand sand sand sand sand sand sand	medium to fine sand with 10% silt and clay. The to subangular. The fines rong reaction to HCI are flat and elongated.					Method D-24 grain-size det based on the System. Horizontal Su Nevada State zone, in feet. Sharp contact gradational of the wise. WELL DESIGN PVC Stickup: Cement - Ber Bentonite Chi No. 60 Silica #10-20 Silica feet 2-inch Nomin Slotted Screen Native Collap Additional Berton with the state of the state	ntonite Grout: 0 - 196 feet ips: 196 - 201 feet Sand: 201 - 202 feet Sand Filter Pack: 202 - 23 al Schedule 80 PVC 0.010 en: 204.5 - 224.5 feet se: 270 - 300 feet ntonite Fill: 230.5 - 270 fee ells at this location: 3 als for paired wells are label	dure), ure est line. stated

Proj	ect Na	me:Yer	ngton Second Step Hydrogeologic Framework Assessment		_		Pro	oject Number: <u>132025</u>
Soil l	Boring	: M	onitoring Well: X Piezometer: Boring/Well	Nur	nbe	r: <u>B</u>	/W-19E	Sheet <u>2</u> of <u>16</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
		SM	strong reaction to HCl. Some flat, elongated gravel up to 4-inches. Silty Sand with Gravel (15 - 22) Dry,medium dense, no odor. Primarily medium to fine sand with ~15% gravel to 50 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCl.					
- - 25 – -		SC SM	Clayey Sand (22 - 23) Dry,dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity with low toughness, and have a strong reaction to HCI. Silty Sand with Gravel (23 - 25) Dry,dense, no odor. Primarily coarse to fine sand with ~20% gravel to 40 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and have a strong reaction to HCI. Clayey Sand (25 - 28) Dry,very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCI.					
30-		SW-SM	Well-Graded Sand with Silt and Gravel (28 - 32.5) Dry,very dense, no odor. Primarily coarse fine sand with ~30% gravel to 60 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have no reaction to strong reaction to HCl. Some of the gravel are elongated.					
-		SP	Poorly Graded Sand (32.5 - 34) Dry,very dense, no odor. Primarily medium sand with ~10% gravel to 15 mm and ~5% silt and clay. The sand and gravel are angle as subangular. The fines			, TJY,		

Proj	ect Na	me: Yer	ington Second Step Hydrogeologic Framework Assessment		_		Projec	t Number:132025
Soil	Boring	: M	fonitoring Well: X Piezometer: Boring/Well	Nur	nbe	r: <u>B</u>	/W-19D	Sheet <u>3</u> of <u>16</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
35-		GW-GM	Well-Graded Gravel with Silt and Sand (34 - 35) Dry,very dense, no odor. Primarily gravel to 60 mm, ~ 35% coarse to medium sand and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.					
		SM	Well-Graded Sand with Silt and Gravel (35 - 36) Dry,very dense, no odor. Primarily medium to coarse sand with ~20% gravel to 20 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl. Silty Sand with Gravel (36 - 39) Dry,very dense, no odor. Primarily coarse to fine sand with ~20% gravel to 15 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.					
40-		SW-SM	Well-Graded Sand with Silt and Gravel (39 - 44.5) Dry,very dense, no odor. Primarily medium sand with ~15% gravel to 15 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and do not react to HCI.					
45- -		SM SM	Silty Sand (44.5 - 45) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and do not react to HCl. Silty Sand (45 - 47.5) Dry,very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The					
50-		SM	fines are nonplastic, and do not react to HCl. Silty Sand (47.5 - 51.5) Dry,very dense, no odor. Primarily medium to fine sand with ~5% gravel to 25 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, and have no reaction to strong reaction to HCl.					
-	_	SW-SM	Well-Graded Sand with Silt (51.5 - 54.5) Dry,very dense, no odor. Primarily medium to fine sand with ~10% gravel to 30 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are populastic, and have no reaction to strong					

·	ect Na Boring:	_	onitoring Well: X Piezometer: Boring/Well	Nur	nbe	r: <u>B</u>	Projec /W-19D	Sheet <u>4</u> of <u>16</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
- 55 <i>-</i> -		SC SW-SM	reaction to HCl. Clayey Sand (54.5 - 55) Dry,very dense, no odor. Primarily coarse to fine sand with ~10% gravel to 20 mm and ~35% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and have a strong reaction to HCl. Well-Graded Sand with Silt and Gravel (55 - 56)					
60-			Dry,very dense, no odor. Primarily coarse to fine sand with ~20% gravel to 20 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCl. Well-Graded Sand with Silt (56 - 62) Dry,very dense, no odor. Primarily medium to fine sand with ~5% gravel to 20 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and have a strong reaction to HCl.					
- - 65— -		SP-SM SP-SM	Poorly Graded Sand with Silt (62 - 63.5) Dry,very dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and have a strong reaction to HCl. Poorly Graded Sand with Silt (63.5 - 65) Dry,very dense, no odor. Primarily medium to fine sand with ~10% gravel to ~15 mm and 35% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and do not react to HCl. Well-Graded Sand with Silt and Gravel (65 - 75) Dry,dense, no odor. Primarily coarse to fine sand with ~15% gravel to 40 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl. Zone has 6-inch interbedded sand with silt lenses that have ~15% gravel to 10 mm with ~10% coarse grained sand and ~65% medium to fine grained sand at ~66-66.5 fbgs and ~69.5-70.5 fbgs.					
70-								

Soil Boring: Monitoring Well: Mercameter Boring/Well Number: BM-190 S Second Se	Project Name:Yerington Second Step Hydrogeologic Framework Assessment Project Number:132025										
SP-SM Poorly Graded Sand with Silt (75 - 76.5) Dry,dense, no odor. Primarily medium to fine sand with -5% gravel to 30 mm and -10% silt and day. The sand and gravel are subanqular to subrounded. The fines are nonplastic, and do not react to HCI. SP-SM Poorly Graded Sand with Silt (76.5 - 79) Dry,dense, no odor. Primarily medium to fine sand with -5% gravel to 20 mm and -20% silt and day. The sand and gravel are subanqular to subrounded. The fines are nonplastic, and have a strong reaction to HCI. SW-SM SW-SM Well-Graded Sand with Silt and Gravel (79.5 - 81) SW-SM Well-Graded Sand with Silt and Gravel (79.5 - 81) Dry,very dense, no odor. Primarily coarse to fine sand with -15% gravel to 10 mm and -15% silt and day. The sand and gravel are angular to subrounded. Well-Graded Sand with Silt (81 - 83) Dry,very dense, no odor. Primarily medium to fine sand with -15% gravel to 10 mm and -15% silt and day. The sand and gravel are angular to subrounded. The fines are nonplastic, and do not react to HCI. Well-Graded Sand with Silt (81 - 83) Dry,very dense, no odor. Primarily medium to fine sand with -10% gravel to 30 mm and -10% silt and day. The sand and gravel are angular to subrounded. The fines are nonplastic, and do not react to HCI. Well-Graded Sand (83 - 84.5) Dry,very dense, no odor. Primarily medium to coarse sand with -10% gravel to 10 mm and -5% silt and day. The sand and gravel are as subangular. The	Sheet <u>5</u> of <u>16</u>										
SP-SM Poorly Graded Sand with Silt (75 - 76.5) Dry,dense, no odor. Primarily medium to fine sand with -5% gravel to 30 mm and -10% silt and day. The sand and gravel are subanqular to subrounded. The fines are nonplastic, and do not react to HCI. SP-SM Poorly Graded Sand with Silt (76.5 - 79) Dry,dense, no odor. Primarily medium to fine sand with -5% gravel to 20 mm and -20% silt and day. The sand and gravel are subanqular to subrounded. The fines are nonplastic, and have a strong reaction to HCI. SW-SM SW-SM Well-Graded Sand with Silt and Gravel (79.5 - 81) SW-SM Well-Graded Sand with Silt and Gravel (79.5 - 81) Dry,very dense, no odor. Primarily coarse to fine sand with -15% gravel to 10 mm and -15% silt and day. The sand and gravel are angular to subrounded. Well-Graded Sand with Silt (81 - 83) Dry,very dense, no odor. Primarily medium to fine sand with -15% gravel to 10 mm and -15% silt and day. The sand and gravel are angular to subrounded. The fines are nonplastic, and do not react to HCI. Well-Graded Sand with Silt (81 - 83) Dry,very dense, no odor. Primarily medium to fine sand with -10% gravel to 30 mm and -10% silt and day. The sand and gravel are angular to subrounded. The fines are nonplastic, and do not react to HCI. Well-Graded Sand (83 - 84.5) Dry,very dense, no odor. Primarily medium to coarse sand with -10% gravel to 10 mm and -5% silt and day. The sand and gravel are as subangular. The											
SP-SM Poorly Graded Sand with Silt (75 - 76.5) Dry, dense, no odor. Primarily medium to fine sand with -5% gravel to 30 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCl. SP-SM Clayey Sand (79 - 79.5) Dry, dense, no odor. Primarily medium to fine sand with -5% gravel to 20 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCl. SW-SM Well-Graded Sand with Silt and Gravel (79.5 - 81) Dry, very dense, no odor. Primarily coarse to fine sand with ~15% gravel to 10 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl. Well-graded Sand with Silt (81 - 83) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 30 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl. Well-Graded Sand (83 - 84.5) Dry, very dense, no odor. Primarily medium to coarse sand with ~10% gravel to 30 mm and ~5% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl. Well-Graded Sand (83 - 84.5) Dry, very dense, no odor. Primarily medium to coarse sand with ~10% gravel to 10 mm and ~5% silt and clay. The sand and gravel are angular to subangular. The											
Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to 30 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl. Poorly Graded Sand with Silt (76.5 - 79) Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to 20 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCl. SW-SM SW-SM SW-SM Well-Graded Sand with Silt and Gravel (79.5 - 81) Dry, very dense, no odor. Primarily coarse to fine sand with ~15% gravel to 10 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines have read unit a strong reaction to HCl. Well-Graded Sand with Silt and Gravel (79.5 - 81) Dry, very dense, no odor. Primarily coarse to fine sand with ~15% gravel to 10 mm and ~15% silt and clay. The sand and gravel are angular to subrounded. The fines are nonplastic, and do not react to HCl. Well-graded Sand with Silt (81 - 83) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 30 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl. Well-Graded Sand (83 - 84.5) Dry, very dense, no odor. Primarily medium to coarse sand with ~10% gravel to 10 mm and ~5% silt and clay. The sand and gravel are angular to subangular. The											
Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to 20 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCl. SC Clayey Sand (79 - 79.5) Dry, very dense, no odor. Primarily medium to fine sand with grain size up to 5 mm and ~35% silt and clay. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, and have a strong reaction to HCl. SW-SM Well-Graded Sand with Silt and Gravel (79.5 - 81) Dry, very dense, no odor. Primarily coarse to fine sand with ~15% gravel to 10 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl. Well-Graded Sand with Silt (81 - 83) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 30 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl. Well-Graded Sand (83 - 84.5) Dry, very dense, no odor. Primarily medium to coarse sand with ~10% gravel to 10 mm and ~5% silt and clay. The sand and gravel are angular to subangular. The											
SW-SM Dry,very dense, no odor. Primarily medium to fine sand with grain size up to 5 mm and ~35% silt and clay. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, and have a strong reaction to HCl. Well-Graded Sand with Silt and Gravel (79.5 - 81) Dry,very dense, no odor. Primarily coarse to fine sand with ~15% gravel to 10 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl. Well-graded Sand with Silt (81 - 83) Dry,very dense, no odor. Primarily medium to fine sand with ~10% gravel to 30 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl. Well-Graded Sand (83 - 84.5) Dry,very dense, no odor. Primarily medium to coarse sand with ~10% gravel to 10 mm and ~5% silt and clay. The sand and gravel are angular to subangular. The											
SW-SM Dry,very dense, no odor. Primarily coarse to fine sand with ~15% gravel to 10 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl. Well-graded Sand with Silt (81 - 83) Dry,very dense, no odor. Primarily medium to fine sand with ~10% gravel to 30 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl. Well-Graded Sand (83 - 84.5) Dry,very dense, no odor. Primarily medium to coarse sand with ~10% gravel to 10 mm and ~5% silt and clay. The sand and gravel are angular to subangular. The											
Dry,very dense, no odor. Primarily medium to fine sand with ~10% gravel to 30 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl. Well-Graded Sand (83 - 84.5) Dry,very dense, no odor. Primarily medium to coarse sand with ~10% gravel to 10 mm and ~5% silt and clay. SM SM SM SM SM SM SM SM SM S											
Dry,very dense, no odor. Primarily medium to coarse sand with ~10% gravel to 10 mm and ~5% silt and clay. SM The sand and gravel are angular to subangular. The											
Silty Sand (84.5 - 86) Dry,very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and have a strong reaction to HCI.											
Well-Graded Sand (86 - 88.5) Dry to moist,very dense, no odor. Primarily medium to coarse sand with ~10% gravel to 20 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a weak reaction to HCl.											
SM Clayey Sand (88.5 - 89) Dry,very dense, no odor. Primarily medium to fine sand with grain size up to 5 mm and ~35% silt and clay. The sand is angular to subangular. The fines have medium plasticity and toughness, and have a weak reaction to HCl. Silty Sand (89 - 92.5)	d from 90 to 110										

Proj	ect Na	me: Yeri	ring	ton Second Step Hydrogeologic Framework Assessment				Pı	oject Number:132025
Soil I	Boring:	;:[] M	1on	itoring Well: X Piezometer: Boring/Wel	II Nu	mbe	er:E	3/W-19	Sheet <u>6</u> of <u>16</u>
	_			•					
Depth (ft)	Elevation (ft)	USCS Group Symbol		Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
-				Moist,very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, and have no reaction to a weak reaction to HCI.					
_		SM		Silty Sand (92.5 - 93)					
95—		SM		Moist to saturated, very dense, no odor. Primarily coarse to fine sand with ~10% gravel to 25 mm and ~15% silt and clay. The sand and gravel are angular to / subangular. The fines are nonplastic, and do not react / to HCl					
30		SW		medium to fine sand with ~5% gravel to 20 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a weak reaction to HCl. Well-Graded Sand with Gravel (95 - 97)					
_		SM		Saturated,very dense, no odor. Primarily medium to fine sand with ~20% gravel to 10 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI.					
_		GW		Silty Sand with Gravel (97 - 98) Moist, very dense, no odor. Primarily coarse to fine sand with ~20% gravel to 20 mm and ~35% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and have a strong reaction to HCI.		•			
100-		SM		Well-Graded Gravel with Sand (98 - 100) Saturated,very dense, no odor. Primarily gravel to ~30 mm, ~ 40% coarse to medium sand and ~5% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCl.	B/W-19D@99-104				
_		SW-SM		Silty Sand (100 - 102) Saturated, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 25 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI.	B/W-1				
-			\downarrow	Well-Graded Sand with Silt (102 - 104.5) Saturated, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~10% silt and clay. The sand and gravel are angular to	┢	•			
105-		SC	+	subangular. The fines are nonplastic, and have a strong reaction to HCl.	-				
_		SW-SM		Clayey Sand (104.5 - 105) Saturated, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 25 mm and ~40% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and have a strong reaction to HCl.					
_				Well-Graded Sand with Silt and Gravel (105 - 109.5) Saturated, very dense, no odor. Primarily medium to coarse sand with~20% gravel to 30 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCl.					
110-		SM		Silty Sand with Gravel (109.5 - 115) Moist very dense no odor. Primarily medium to fine	1		° 0°		

•	ect Na Boring		Ingion Second Step Hydrogeologic Framework Assessment Ionitoring Well: X Piezometer: Boring/We	II Nui	— nbe	r:B	Pr W-19[O Sheet 7 of 16
				_				
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
-			sand with ~20% gravel to 25 mm and ~35% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and have a strong reaction to HCl.					
115— - -		SW-SM	Well-Graded Sand with Silt and Gravel (115 - 122) Saturated, dense, no odor. Primarily medium to coarse sand with ~15% gravel to 25 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a weak to strong reaction to HCI. There are some gravel up to 60 mm.		•			
- 120 — -				B/W-19D@117-122				
-		SM	Silty Sand (122 - 125) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 20 mm and ~35% silt and clay. The sand and gravel are angular to subrounded. The fines have low plasticity and toughness, and have a strong reaction to HCI.					
125-		SM	Silty Sand with Gravel (125 - 127) Moist, very dense, no odor. Primarily coarse to fine sand with ~15% gravel to 40 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a weak to strong reaction to HCI.					
-		SM	Silty Sand (127 - 134.5) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 25 mm and ~40% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and have a weak to strong reaction to HCI.					

	ect Na Boring		onitoring Well: X Piezometer: Boring/We	ell Nu	— nbe	r: <u> </u>	Pr 3/W-19[O Sheet 8 of 16
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
130 — - - 135 —		SM SM	Silty Sand (134.5 - 135) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~15% silt and clay. The sand is angular to subangular. The fines are nonplastic, and have a strong reaction to HCl. Silty Sand (135 - 140) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 20 mm and ~30% silt and clay.					
- 140 — -		SM	The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and have a strong reaction to HCI. Silty Sand (140 - 145) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and have no reaction to strong reaction to HCI.					B/W-19I screened from 140 to 160 feet
- 145 — -		SW-SM	Well-Graded Sand with Silt (145 - 148) Saturated, very dense, no odor. Primarily medium to coarse sand with ~10% gravel to 25 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.	B/W-19D@145-150	• • • • •			

			Ingloir Second Step Hydrogeologic Framework Assessment		_	_		oject Number:
Soil I	Boring	: M	Ionitoring Well: X Piezometer: Boring/We	ell Nui	nbe	r: <u>B</u>	/W-19[Sheet <u>9</u> of <u>16</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
150-		SM	Silty Sand (148 - 150) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and have a strong reaction to HCI.		•			
-		SC	Clayey Sand (150 - 157) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, and have a weak to strong reaction to HCl.					
155 — -								
-		SM	Silty Sand with Gravel (157 - 165.5) Saturated, dense, no odor. Primarily medium to coarse sand with ~15% gravel to 30 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCI. Zone has some thinly interbedded sand with silt layers.					
160 —								
165—					•			
_		SW	Well-Graded Sand (165.5 - 168) Saturated, dense, no odor. Primarily medium sand with ~10% gravel to 20 mm and ~10% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic, and have a weak to strong reaction to HCl.					

·	ect Na Boring		Ingion Second Step Hydrogeologic Pramework Assessment Ionitoring Well: X Piezometer: Boring/We	l Nu	mbe	r: <u>B</u>	/W-19E	Sheet <u>10</u> of <u>16</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
- 170 —		SM SW-SM	Silty Sand (168 - 170) Moist, very dense, no odor. Primarily medium sand with ~5% gravel to 20 mm and ~20% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCI. Well-Graded Sand with Silt (170 - 175)	B/W-19D@165-170	• • •			
- - - 175 —			Saturated, dense, no odor. Primarily medium sand with ~10% gravel to 50 mm and ~10% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic, and have no reaction to a weak reaction to HCI.					
-		CL	Sandy Lean Clay (175 - 181) Dry, very dense, no odor. Primarily silt and clay with ~ 35% medium to find sand with ~10% gravel up to 15 mm. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness,have the 7.5 YR 5/4 brown color with some gray interbeds, and have no reaction to strong reaction to HCI.					
180-								
-		sc	Clayey Sand (181 - 184) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~35% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines have medium plasticity and toughness, and have a strong reaction to HCI.					
185 –		SM	Silty Sand (184 - 191) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 50 mm and ~35% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, and have a weak to strong reaction to HCI.					

_	ect Na Boring		Ington Second Step Hydrogeologic Framework Assessment Ionitoring Well: X Piezometer: Boring/We	ell Nui	mbe	r: <u>B</u>	/W-19D	Number: Sheet of
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
- - - - - - -		SC	Clayey Sand (191 - 193) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI. Sandy Lean Clay (193 - 200) Dry, very dense, no odor. Primarily silt and clay with ~35% medium to fine sand and ~5% gravel to 20 mm. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness,have the 7.5 YR 5/4 brown color, and have no reaction to strong reaction to HCI.					
- 2000 — - - - 2005 —		SC	Clayey Sand (200 - 205) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.					B/W-19D screened from 204.5 to 224.5 feet
200			Clayey Sand (205 - 207.5)					

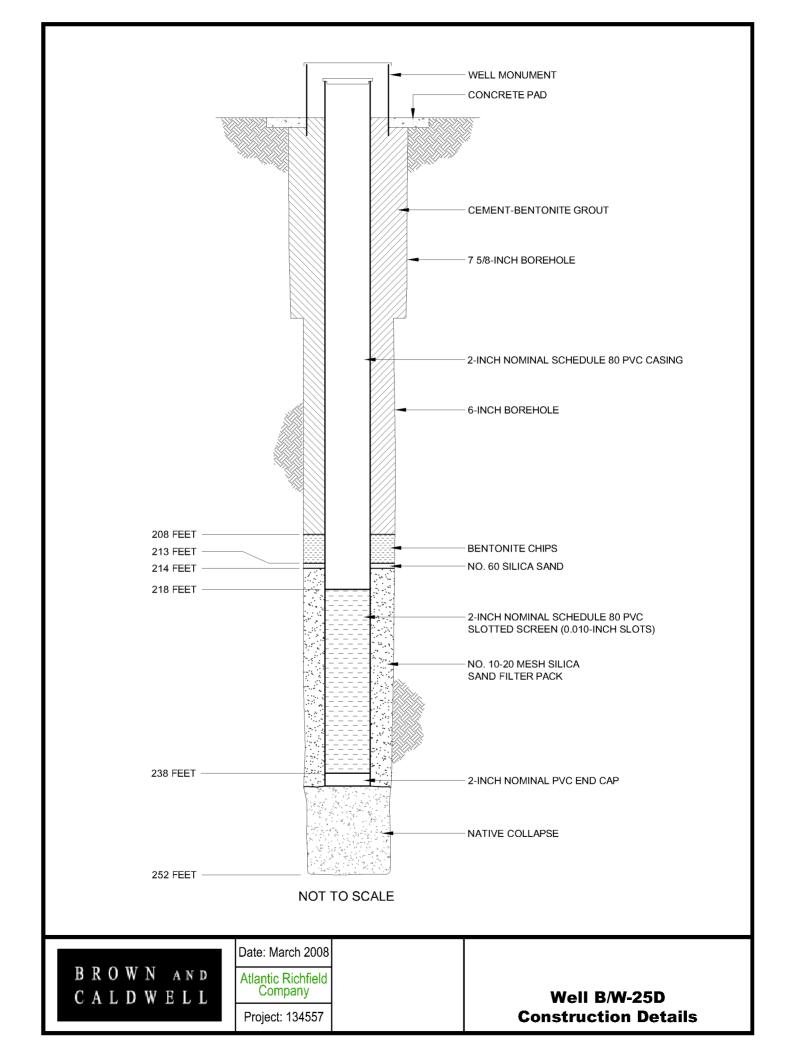
Proj	ect Na	me: _Yer	ington Second Step Hydrogeologic Framework Assessment		_		Pro	oject Number:132025
Soil I	Boring	:: M	onitoring Well: X Piezometer: Boring/Wel	l Nu	nbe	r:B	W-19D	Sheet <u>12</u> of <u>16</u>
Depth (ft)	Elevation (ft)	nsce	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
-		SC	Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~35% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and have no reaction to strong reaction to HCI.					
-		SC	Clayey Sand (207.5 - 210) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 15 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and do not react to HCI.					
210-		SM	Silty Sand with Gravel (210 - 211.5) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 10 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.					
-		30	Clayey Sand (211.5 - 215) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 15 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and do not react to HCI.					
215		SM	Silty Sand with Gravel (215 - 217) Dry to moist with some saturated seams, dense, no odor. Primarily medium to fine sand with ~20% gravel to 30 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.					
-		SM	Silty Sand with Gravel (217 - 222) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and have no reaction to a weak reaction to HCl.					
220 — -								
		SM	Silty Sand with Gravel (222 - 222.5) Saturated, dense, no odor. Primarily medium to			o 0 °		
-		SM	coarse sand with ~15% gravel to 50 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.	-				
-		SM	Silty Sand (222.5 - 223.5) Moist, very dense, no odor. Primarily medium to fine					

Proj	ect Na	ame: _Yeri	ngton Second Step Hydrogeologic Framework Assessment		_		Pro	oject Number:132025
Soil l	Boring	ŗ∏ M	onitoring Well: X Piezometer: Boring/Well	Nur	nbe	r: <u>B</u>	/W-19E	Sheet <u>13</u> of <u>16</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
225-		CL SM	sand with ~10% gravel to 10 mm and ~35% silt and clay. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, and have no reaction to strong reaction to HCI.					
-			Silty Sand (223.5 - 224.5) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and do not react to HCI.					
-		SM	Sandy Lean Clay (224.5 - 225) Dry, very dense, no odor. Primarily silt and clay with ~30% medium to fine sand with ~5% gravel to 10 mm. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, have 7.5 YR 5/4 brown color, and have a strong reaction to HCI.					
230-			Silty Sand (225 - 228) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~35% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and have a weak to strong reaction to HCI.					
-		CL CL	Silty Sand (228 - 232) Dry to moist, very dense, no odor. Primarily medium to fine sand with a maximum grain size of ~1 mm. The sand is subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not					
235—		SM	react to HCI. Sandy Lean Clay (232 - 232.5) Dry, very dense, no odor. Primarily silt and clay with ~40% medium to fine sand with trace gravel to 10 mm. The gravel is angular to subangular and the sand is subangular to subrounded. The fines have medium plasticity and toughness, have 7.5 YR 5/4 brown color, and have a strong reaction to HCI.					
-			Sandy Lean Clay (232.5 - 233.5) Dry to moist, very dense, no odor. Primarily silt and clay with no gravel and a maximum grain size of ~5 mm. The gravel is angular to subangular and the sand is subangular to subrounded. The fines have medium plasticity and toughness, have 7.5 YR 5/4 brown color, and have a strong reaction to HCI.					
-			Silty Sand (233.5 - 239) Dry, very dense, no odor. Primarily medium to fine sand with trace gravel to 10 mm and ~40% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, have the 7.5 YR 5/4 brown, and have a strong reaction to HCI.					
240-		SM	Silty Sand (239 - 241) Dry, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~35% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and have a strong reaction to HCI.					
-		SM	Silty Sand (241 - 252) Dry, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and have a strong reaction to HCl.					

	ect Nai Boring:		Ingion Second Step Hydrogeologic Planework Assessment Ionitoring Well: X Piezometer: Boring/We	Number:						
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks		
245										
255 — - 255 —		CL	Sandy Lean Clay (252 - 257) Dry, very dense, no odor. Primarily silt and clay with with ~35% medium to fine sand with ~5% gravel to 10 mm. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, have the 7.5 YR 5/4 brown, and have a strong reaction to HCI. Zone is well indurated with CaCO3.							
-		SC	Clayey Sand with Gravel (257 - 260) Dry, very dense, no odor. Primarily medium to fine sand with ~20% gravel to 15 mm and ~40% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and have a strong reaction to HCl. Zone is well indurated with CaCO3.							
260 — -	-	CL	Sandy Lean Clay (260 - 277.5) Dry, very dense, no odor. Primarily silt and clay with ~40% coarse to fine sand with ~10% gravel to 10 mm. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, have the 7.5 YR 5/4 brown color, and have a strong reaction to HCI. Zone becomes dry to moist at 271.5 fbgs.			12 . T . X				

Proj	ect Na	me: Ye	rington Second Step Hyd	rogeologic Framework A	ssessment		_		Pre	oject Number: 132025		
Soil 1	Boring	:: N	Monitoring Well: X	Piezometer:	Boring/Well	Nun	nber	r:B/	W-19E)	Sheet	<u>15</u> of <u>16</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Mat	erial Description		Sample Name	Sample Location	Lithology	Well Construction	Remarks		
- 265 – - -												
- 270 - - -												
- 275 – -	-								######################################			
- 280 –	-	SC SC	fine sand with ~5% (clay. The sand and The fines have med have a brown color, Clayey Sand (278 - Dry, very dense, no sand with ~10% graclay. The sand and The fines have med	dense, no odor. Primarily gravel to ~10 mm and 30 gravel are angular to sublum plasticity with low too and have a strong reacti	10% silt and pangular. ughness, on to HCl. to fine silt and pangular. less, have							

Proje	ect Na	me: Yeri	ington Second Step Hydrogeologic Framework Assessment		_		Pro	oject Number: <u>132025</u>
Soil I	Boring	: M	Ionitoring Well: X Piezometer: Boring/Well	Nur	nbe	r: <u>B</u>	/W-19E	Sheet <u>16</u> of <u>16</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
- - 285 — - -		CL SM	Sandy Lean Clay (284.5 - 285) Dry, very dense, no odor. Primarily silt and clay with ~5% gravel to 15 mm and ~35% medium to fine grained sand. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and have a strong reaction to HCl. Silty Sand (285 - 291) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 40 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, have a brown color, and have a strong reaction to HCl.					
- 290 — -		CL	Sandy Lean Clay (291 - 292.5) Dry, very dense, no odor. Primarily silt and clay with					
- - 295 —		СН	~30% medium to fine sand and ~10% gravel to 15 mm. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and have a strong reaction to HCI. Fat Clay with Sand (292.5 - 296) Dry to moist, very dense, no odor. Primarily silt and clay with ~20% coarse sand with ~10% gravel to 15 mm. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and have a strong reaction to HCI.					
- - -		SC	Sandy Lean Clay (296 - 300) Dry, very dense, no odor. Primarily coarse to fine sand with ~10% gravel to 15 mm and ~35% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and have a strong reaction to HCl.					
300 —			Bottom of Borehole at 300 feet below ground surface.			<i>[.].]. [.</i>		



Brown and Caldwell BORING LOG

Proj	ect Na	me: _Yer	ington Second Step Hydrogeolog	ic Framework Assessment				Pr	oject Number:	132025			
Soil I	Boring	: M	Ionitoring Well: X Piezomet	er: Boring/Wel	l Nu	mbe	r: <u>B</u>	W-25I	D	Sheet _1_ of _14_			
Bori	ng Loc	cation: Sou	th side of road, one mile west on Lu	zier Lane.			thing:			Easting:			
Drill	ing Co	ontractor:	Boart Longyear	Driller: R. Salois		Gro	ound S	urface	vation: feet a	eet amsl			
Drilli	ing Eq	uipment: (GP24-300RS	Borehole Diameter:6-inches	5	Dat	e Start	ed: 12	2/17/07	Date Finished: 1/19/08			
Drilli	ing Mo	ethod: Son	ic	Drilling Fluid: Water		Completed Water Depth: 252 fbgs Depth: fbmp							
Sam	pling N	Method: (Core Barrel			WELL CONSTRUCTION							
Well	Seal:	Bentonite	and Cement			Typ of V	e and Vell Ca	Diame sing:	eter 2-inch Sch	nedule 80 PVC			
Logg	ed By	: C. Straus	SS						inch Filter Ma	aterial: #10-20 Silica Sand			
									'				
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material D	escription	Sample Name	Sample Location	Lithology	Well Construction		Remarks			
_		SP	Poorly Graded Sand (0 - 2) Dry, loose, no odor. Primal with ~5% gravel to 10 mm all sand and gravel are subangu fines are nonplastic, and do	rily medium to fine sand nd ~10% silt and clay. The ular to subrounded. The					Method D-248 grain-size det	drilled cuttings based on ASTM (the visual-manual procedure), erminations and nomenclature Unified Soil Classification			
		SM	Silty Sand (2 - 9) Dry, loose to dense, no odd sand with ~5% gravel to 5mr The sand and gravel are sub The fines are nonplastic to lo toughness, and do not react	n and ~20% silt and clay. angular to subrounded. w plasticity and					Nevada State zone, in feet. Sharp contact gradational co	rvey data is expressed in the Plane system, Nevada West is indicated by solid lines, ontacts indicated by dashed line.			
-									PVC Stickup: Cement - Ber Bentonite Chi No. 60 Silica #10-20 Silica 2-inch Nomin: Slotted Scree Native Collap	SN for B/W-25D: feet. ntonite Grout: 0 - 208 feet ps: 208 - 213 feet Sand: 213 - 214 feet Sand Filter Pack: 214 - 238 feet al Schedule 80 PVC 0.010 n: 218 - 238 feet se: 238 - 252 feet ntonite Fill: NA feet			
10-		SP	Poorly Graded Sand (9 - 12 Dry, loose, no odor. Primal with ~5% gravel to 10 mm ar sand and gravel are subangu fines are nonplastic, and do to	rily medium to fine sand nd ~15% silt and clay. The ular to subrounded. The						ells at this location: 3 als for paired wells are labeled at lepths.			
-		SC	Clayey Sand (12 - 14) Moist, dense, no odor. Prir with ~5% gravel to 10 mm ar sand and gravel are angular are nonplastic to low plasticit not react to HCl.	nd ~25% silt and clay. The to subangular. The fines									
_		SP	Poorly Graded Sand (14 - 1 Moist to saturated, dense, r to fine sand with ~10% grave	no odor. Primarily medium									

·	ect Na Boring		onitoring Well: X Piezometer: Boring/Wel	l Nu	— nbe	r: <u>B</u>	Pr W-25[O Sheet 2 of 14
			Ş Ş					
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
		SM	and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.					
-			Silty Sand (15 - 18) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines have low to medium plasticity and toughness, and do not react to HCI.					
-		SP SM	Poorly Graded Sand (18 - 18.5) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.					
20-	-		Silty Sand (18.5 - 23) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCI.					
- 25 — -		SC	Clayey Sand (23 - 29) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and do not react to HCI.					
-								
30-		SW	Well-Graded Sand (29 - 31) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.	5.1	•			B/W-25S screened from 29 to 49 feet
		SM	Silty Sand (31 - 31.5) Moist, very dense, no odor. Primarily medium to fine	9.5-34.	•			
-	-	SW	sand with ~5% gravel to 5 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCl.	B/W-25D@29.				
-	_	CL	Well-Graded Sand (31.5 - 32.5) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to	B/M				

Proje	ect Na	me: Yer	ngton Second Step Hydrogeologic Framework Assessment				Pr	oject Number:132025				
Soil I	Soil Boring: Monitoring Well: X Piezometer: Boring/Well Number: B/W-25D Sheet 3 of 14											
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks				
			subrounded. The fines are nonplastic, and do not react to HCl.		•							
35-			Sandy Lean Clay (32.5 - 37) Dry to moist, very dense, no odor. Primarily silt and clay with ~35% medium to fine sand with no gravel. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and do not react to HCI.									
_		SP	Poorly Graded Sand (37 - 43) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.									
40-												
_		SP	Poorly Graded Sand (43 - 45) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.									
45-		CL	Sandy Lean Clay (45 - 47) Dry to moist, very dense, no odor. Primarily silt and clay with ~40% medium to fine sand with ~5% coarse sand to 5 mm. The sand is angular to subangular. The fines have low to medium plasticity and toughness, have a light brown color, and have no reaction to a weak reaction to HCI.									
-		SP	Poorly Graded Sand (47 - 55) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. The sand is fining upward in section.									
50-				55	•							
_				V-25D@50-55								

Proj	ect Na	me: _Yer	ington Second Step Hydrogeologic Framework Assessment		_		Project I	Number: <u>132025</u>	
Soil 1	Boring	: M	Ionitoring Well: X Piezometer: Boring/Well	II Nui	nbe	r: <u>B</u>	/W-25D	Sheet <u>4</u> of _	<u>14</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks	
55-		SC	Clayey Sand (55 - 57.5) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, have a brown color, and have no reaction to a weak reaction to HCI.						
-		SP	Poorly Graded Sand (57.5 - 60) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.						
60 -		SC	Clayey Sand (60 - 63.5) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, have a light brown color, and do not react to HCI.						
65 -		SP	Poorly Graded Sand (63.5 - 68) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl. The sand are fining up wards.						
70-		SC	Clayey Sand (68 - 71) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, have a medium brown color, and have no reaction to a weak reaction to HCI.						
		SM	Silty Sand (71 - 78.5) Moist, very dense, no odor. Primarily silt and clay with ~40% medium to fine sand and ~5% gravel to 10 mm.						

Proj	ect Na	me: Yer	rington Second Step Hydrogeologic Framework Assessment		_		Pr	oject Number: 132025				
Soil 1	Soil Boring: Monitoring Well: X Piezometer: Boring/Well Number: B/W-25D Sheet 5 of 14											
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks				
		SW	The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, have a light brown color, and have no reaction to a weak reaction to HCI. Well-Graded Sand (78.5 - 89) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~15% silt and									
80			clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.	B/W-25D@80-85								
	-											
90-		SM	Silty Sand (89 - 95) Dry to moist, dense, no odor. Primarily medium to fine sand with ~5% coarse sand to 5 mm and ~35% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, and have no reaction to a weak reaction to HCl.									

Proj	ect Na	me: <u>Yer</u>	rington Second Step Hydrogeologic Framework Assessment		_		Pro	oject Number: <u>132025</u>
Soil 1	Boring	:: M	fonitoring Well: X Piezometer: Boring/We	II Nui	nbe	r: <u>B</u>	/W-25D	Sheet <u>6</u> of <u>14</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
95-		SC	Clayey Sand (95 - 97) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, have a brown color, and have no reaction to a weak reaction to HCI.					
- - 100 –	-	SM	Silty Sand (97 - 102) Dry to moist, dense, no odor. Primarily medium to fine sand with and ~5% coarse sand to 5 mm and ~35% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, and have no reaction to a weak reaction to HCI.	.25D@99-104	• • • •			
- 105	-	SW	Well-Graded Sand (102 - 108.5) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.	B/W-25[B/W-25I screened from 102 to 122 feet
-	_	SM	Silty Sand (108.5 - 110) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10mm, ~10% coarse grain sand and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic,					

Soil Boring: Monitoring Well: A Piezometer: Boring/Well Number: B/W-25D Sheet 7 of 14									
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks	
-		SP	and do not react to HCI. Poorly Graded Sand (110 - 111) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10mm, ~10% coarse grain sand and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Silty Sand (111 - 113) Moist, very dense, no odor. Primarily medium to fine						
- 115 – - -		SP	sand with ~5% gravel to 10mm, ~5% coarse grain sand and ~25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, and have no reaction to a weak reaction to HCI. Poorly Graded Sand (113 - 119) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15mm, ~20% coarse grain sand and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Sand gets finer toward top of section.						
- 120 – - -		CL	Sandy Lean Clay (119 - 129) Dry, dense, no odor. Primarily silt and clay with ~5% gravel to 10mm, ~5% coarse grain sand and ~ 35% medium to fine grain sand. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and have a weak reaction to HCl. Zone is very hard with little to no gravel or coarse sand.						
- 125 — - -									

ū	ect Na		Ingloir Second Step Hydrogeologic Framework Assessment		_	_		oject Number: 152025
Soil I	Boring:	:[M	Ionitoring Well: X Piezometer: Boring/We	II Nur	nbe	r: <u> </u>	/W-25I	Sheet <u>8</u> of <u>14</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
130 —		SM	Silty Sand (129 - 135.5) Moist, dense, no odor. Primarily medium to fine sand with ~5% coarse grain sand and ~30% silt and clay. The sand is subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCl.					
140 —		SM	Silty Sand (135.5 - 142.5) Moist, dense, no odor. Primarily medium to fine sand with ~5% coarse grain sand and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCl. Zone is mostly fine sand.	380-85	• • •			
- 145 <i>-</i>		SP	Poorly Graded Sand (142.5 - 146) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10mm, ~10% coarse grain sand and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.	B/W-25D@80-85	•			
_		SM	Silty Sand (146 - 149) Moist, dense, no odor. Primarily medium to fine sand with ~10% coarse grain sand to 5mm and ~25% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCI.					

Proj	ect Na	me: _Yer	ington Second Step Hydrogeologic Framework Assessment	Project Number:132025					
Soil 1	Boring:	: M	Ionitoring Well: \overline{X} Piezometer: Boring/Well	Nur	nbe	r: _B	/W-2	Sheet <u>9</u> of <u>14</u>	
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks	
150 –	-	SM	Silty Sand (149 - 155) Dry to moist, dense, no odor. Primarily fine sand with ~20% medium grain sand to 2mm and ~40% silt and clay. The sand is angular to subangular. The fines are nonplastic, and do not react to HCI.						
-									
155 -		CL	Clayey Sand (155 - 157) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10mm, ~5% coarse grain sand and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, and have a weak reaction to HCI.						
		CL	Sandy Lean Clay (157 - 158) Dry, very dense, no odor. Primarily silt and clay with ~45% medium to fine grain sand to 2mm. The sand is						
		SC	angular to subangular. The fines have moderate to high plasticity, are moderately tough, and have no reaction to a weak reaction to HCl.						
160 — -			Clayey Sand (158 - 162.5) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10mm, ~10% coarse grain sand and ~40% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, and have a weak reaction to HCl.						
-	-	CL	Lean Clay (162.5 - 165) Dry, very dense, no odor. Primarily silt and clay with ~40% medium to fine grain sand to 2mm. The sand is angular to subangular. The fines have medium plasticity and toughness, and have a weak reaction to HCI.						
165-	-	SP	Poorly Graded Sand (165 - 166) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5mm, ~10% coarse grain sand			(////			
-	_	CL	and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl. Lean Clay (166 - 169)						

•	ect Na Boring		Ingion Second Step Hydrogeologic Framework Assessment Ionitoring Well: X Piezometer: Boring/We	ll Nui	nbe	r: <u>B</u>	Pro W-25E	O Sheet 10 of 14
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
-	-		Moist, very dense, no odor. Primarily silt and clay with ~5% corase grain sand to 3mm and ~45% medium to fine grain sand. The sand is angular to subangular. The fines are nonplastic to low plasticity and toughness, have a brown-gray color, and have no reaction to a weak reaction to HCI.					
170 -		SW	Well-Graded Sand (169 - 172) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10mm, ~10% coarse grain sand and ~ 15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl. Zone has more fines and finer sand are toward top of section.					
-		SC	Clayey Sand (172 - 175) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10mm. ~10% coarse grain sand and ~40% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, have a light brown color, and do not react to HCI.					
175 -		CL	Lean Clay (175 - 177) Dry, very dense, no odor. Primarily silt and clay with ~40% medium to fine grained sand with a maximum grain size of 1 mm. The sand is angular to subangular. The fines have moderate to high plasticity, are moderately tough, have a brown color, and do not react to HCI.					
- 180	-	SM	Silty Sand (177 - 181) Dry to moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~40% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and do not react to HCl.					
-		SM	Silty Sand (181 - 183) Moist, dense, no odor. Primarily medium to fine sand with ~5% coarse sand to 5 mm and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
- 185 –	-	CL	Lean Clay (183 - 187.5) Dry to moist, very dense, no odor. Primarily silt and clay with ~35% medium to fine grained sand. The sand is angular to subangular. The fines have moderate to high plasticity, are moderately tough, have a brown color, and do not react to HCl.					

Proj	ect Na	me: Yer	rington Second Step Hydrogeologic Framework Asse	essment			Pro	oject Number: 132025
Soil l	Boring:	: M	Ionitoring Well: X Piezometer:	Boring/Well Nu	mbe	r: _B	/W-25E	Sheet <u>11</u> of <u>14</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
- - 190 — -		SM	Silty Sand (187.5 - 195) Dry to moist, dense, no odor. Primarily mediun fine sand with ~5% gravel to 10 mm and ~25% clay. The sand and gravel are angular to suban The fines are nonplastic to low plasticity and toughness, and do not react to HCl.	silt and				
- 195 — - -		CL	Lean Clay (195 - 196) Dry to moist, very dense, no odor. Primarily si clay with ~5% gravel to 10 mm and ~ 35% med fine grained sand. The sand and gravel are and subangular. The fines have medium plasticity a toughness, have a brown color, and do not read Well-Graded Sand (196 - 200) Saturated, dense, no odor. Primarily medium sand with ~5% gravel to 10 mm and ~15% silt a The sand and gravel are subangular to subroun. The fines are nonplastic, and do not react to HC coarsens upwater and the percent fines goes to approxmately 20 toward the bottom.	to fine and clay. ded.				
200 — - - - - 205 —		SC	Clayey Sand (200 - 205) Dry to moist, very dense, no odor. Primarily m to fine sand with ~5% gravel to 10 mm and ~40 and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and do not react to HCI.	nedium 19% silt				

Proj	ect Na	me:Yer	angton Second Step Hydrogeologic Framework Assessment		_		Pro	oject Number: <u>132025</u>
Soil l	Boring	: M	fonitoring Well: X Piezometer: Boring/Well	Nur	nbe	r: <u>B</u>	W-25D	Sheet 12 of 14
Depth (ft)	Elevation (ft)	G USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
-	-	SC	Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, and do not react to HCl.					
-		CL	Lean Clay (207 - 213.5) Dry to moist, very dense, no odor. Primarily silt and clay with ~40% medium to fine grained sand with a maximum grain size of 1 mm. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.					
210 — - -								
- 215 – -		SM	Silty Sand (213.5 - 217) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.					
-		SC	Clayey Sand (217 - 222) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% coarse sand to 2 mm and ~35% silt and clay. The sand is angular to subangular. The fines are nonplastic, and do not react to HCI.					B/W-25D screened from 218 to 238 feet
220 — -							0//2000///2000/// 	
-		SP SC	Poorly Graded Sand (222 - 222.5) Moist, dense, no odor. Primarily medium to fine sand with a maximum grain size of 1 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCl.					
-			Clayey Sand (222.5 - 227.5) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~40% silt					

	il Boring: Monitoring Well: A Piezometer: Boring/Well Number: B/W-25D Sheet 13 of 14										
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks			
225 — - -	-		and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and have no reaction to a weak reaction to HCl.								
-		SC SW	Clayey Sand (227.5 - 228.5) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, and do not react to HCl.								
230-			Well-Graded Sand (228.5 - 231) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and have no reaction to a weak reaction to HCl. Zone has more								
-		SC	fines toward the bottom of the section. Clayey Sand (231 - 235) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have no reaction to a weak reaction to HCI.								
235 — - - -		CL	Lean Clay (235 - 245) Dry, very dense, no odor. Primarily silt and clay with ~40% medium to fine grained sand with a maximum grain size of 0.5 mm. The sand and gravel are angular to subangular. The fines are highly plastic, very tough, and do not react to HCl. Zone has weaker strength toward the top of the section.								
240 - -											

Proje	ect Na	me: Yer	ington Second Step Hydrogeologic Framework Assessment				Pr	oject Number:132025
Soil I	Boring:	: M	Ionitoring Well: X Piezometer: Boring/W	/ell Nu	mbe	r: <u>B</u>	/W-25[Sheet <u>14</u> of <u>14</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
245—		SOSN SM CL	Silty Sand (245 - 245.5) Moist, dense, no odor. Primarily medium to fine sand with a maximum grain size of 2 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Lean Clay (245.5 - 252) Dry to moist, very dense, no odor. Primarily silt and clay with ~30% fine sand with a maximum grain size of 0.5 mm. The sand is angular to subangular. The fines have moderate to high plasticity, are moderately tough, and do not react to HCI. Bottom of Borehole at 252 feet below ground surface.		San			

Brown and Caldwell BORING LOG

·			ington Second Step Hydrogeologi				R	Pr:////////////////////////////////////	oject Number:						
	Boring:		fonitoring Well: X Piezomet				··		<u>) </u>	Sheet <u>1</u> of <u>14</u>					
			mi west on Luzier Ln., turn right at fe		of d	Top	of PV	Easting:							
Drill	ing Co	ntractor:	Boart Longyear	Driller: R. Salois	\dashv	Gro	ound S	urface ted: 1/1	Elevation: fe	eet amsl Date Finished: 2/6/08					
Drill	ing Eq	uipment: (GP24-300RS	Borehole Diameter:6-inche	s	Completed Water									
Drill	ing Mo	ethod: Son	ic	Drilling Fluid: Water	-	Depth: 250 fbgs Depth: fbmp									
Sampling Method: Core Barrel								WELL CONSTRUCTION Type and Diameter							
Well Seal: Bentonite and Cement								asing:	2-inch Sch	nedule 80 PVC					
Logged By: C. Strauss						Slot Size: 0.010 inch Filter Material: #10-20 Silica Sand									
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material De	escription	Sample Name	Sample Location	Lithology	Well Construction		Remarks					
-		SM	Silty Sand (0 - 4) Dry, loose, no odor. Primar with ~10% gravel to 10mm a The sand and gravel are sub The fines are nonplastic, and	nd ~20% clay and silt. angular to subrounded.					Method D-24 grain-size det based on the System. Horizontal Su Nevada State zone, in feet. Sharp contact	f drilled cuttings based on ASTM 88 (the visual-manual procedure), erminations and nomenclature Unified Soil Classification rvey data is expressed in the Plane system, Nevada West ts indicated by solid lines,					
5-		SP	Poorly Graded Sand (4 - 6) Moist, dense, no odor. Prin with ~5% gravel to 5mm and sand and gravel are subangu fines are nonplastic, and do r	narily medium to fine sand ~10% clay and silt. The lar to subrounded. The					All depths are otherwise.	entacts indicated by dashed line. The below land surface unless stated SN for B/W-27D:					
-		SW	Well-Graded Sand (6 - 8) Saturated, dense, no odor. sand with ~10% gravel to 15 silt. The sand and gravel are subrounded. The fines are n to HCl.	mm and ~10% clay and subangular to					PVC Stickup: Cement - Ber Bentonite Chi No. 60 Silica #10-20 Silica 2-inch Nomin Slotted Scree	feet. ntonite Grout: 0-218 feet ps: 218-223 feet Sand: 223-225 feet Sand Filter Pack: 225-250 feet al Schedule 80 PVC 0.010 n: 230-250 feet					
10-		SM	Silty Sand (8 - 11) Dry to moist, dense, no odo fine sand with ~5% gravel to and silt. The sand and grave subrounded. The fines are n to HCl.	10 mm and ~20% clay I are subangular to					Number of we	ntonite Fill: NA feet ells at this location: 2 als for paired wells are labeled at					
-		SM	Silty Sand with Gravel (11 Dry to moist, dense, no odo fine sand with ~15% gravel to and silt. The sand and grave subrounded. The fines are n to HCI.	r. Primarily medium to o 20 mm and ~20% clay I are subangular to											

Soil I	Boring:		Ingion Second Step Hydrogeologic Prantework Assessment Ionitoring Well: X Piezometer: Boring/Wel	l Mu	— nho	r . B	11 W-27l	Sheet Sheet of
Son	oumg.	1V1	tomtoring went. 25 1 rezoniteer Boring/wen	ı Nui	iibe	r. <u> </u>		Silect 0i
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
-						000		B/W-27S screened from 16 to 36 feet
		SC	Clayey Sand (16 - 17) Moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~30% clay and silt.					D/W-2/3 Screened from 10 to 30 feet
		SW	The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCl.					
-			Well-Graded Sand (17 - 20) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~10% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.					
20-		SP	Poorly Graded Sand (20 - 21) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~15% clay					
		SM	and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.					
-		SC	Silty Sand (21 - 23) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~25% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. There are some small lenses of higher percent fines located					
25 — -			throughout section. Clayey Sand (23 - 27.5) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~30% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
_								
-		SC	Clayey Sand (27.5 - 30) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~25% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.					
30-		SW	Well-Graded Sand (30 - 36) Saturated, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~15% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.	B/W-27D@30-35	* * * * * * *			

·	Soil Boring: Monitoring Well: X Piezometer: Boring/Well Number: B/W-27D Sheet 3 of 14										
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks			
35-					•						
-		CL	Clayey Sand (36 - 40) Moist, very dense, no odor. Primarily silt and clay with ~50% medium to fine grain sand to 1mm. The sand is angular to subangular. The fines have high plasticity, have a brown color, and do not react to HCl.								
- - -		SM	Silty Sand (40 - 44) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~25% clay and silt. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.								
45 -		SC	Clayey Sand (44 - 47) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~30% clay and silt. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.								
-	_	SW	Well-Graded Sand (47 - 48.5) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~15% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react								
-		CL	to HCl. Sandy Lean Clay (48.5 - 49.5) Dry to moist, very dense, no odor. Primarily silt and clay with ~45% medium to fine grained sand with a								
50-	_	CL SW	maximum grain size of 2mm. The sand is angular to subangular. The fines have medium plasticity and toughness, have a brown and rust color, and do not react to HCl.		•						
-			Clayey Gravel (49.5 - 50) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 25 mm and ~20% clay and silt. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and have no reaction to a weak reaction to HCI.	B/W-27D@50-55							

	ect Na Boring		ington Second Step Hydrogeologic Framework Assessment onitoring Well: X Piezometer: Boring/Wel	l Nu	— nhe	r . B.	Pr W-27!	Sheet <u>4</u> of <u>14</u>
Jon 1	Domis		Joing Wo	····				
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
55-			Well-Graded Sand (50 - 56.5) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~10% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have no reaction to a weak reaction to HCl.		• • •			
-	_	SC	Clayey Sand with Gravel (56.5 - 57.5) Moist, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~25% clay and silt. The sand and gravel are subangular to					
-	_	SW	\subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCl. Well-Graded Sand (57.5 - 65)					
60-			Moist to saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~15% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
65-								
-	-	SC	Clayey Sand with Gravel (65 - 67.5) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~25% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
-		SW-SM	Well-Graded Sand with Silt (67.5 - 73.5) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~15% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.					
70-	_				•			

Proje	ect Na	me: _Yer	ington Second Step Hy	ydrogeologic Framework	Assessment]	Project	Number: _	132025		
Soil I	Boring:	M	Ionitoring Well: X	Piezometer:	Boring/Well	Nur	nbe	r: <u>B</u>	/W-2	7D			Sheet _5_ c	of 14
Depth (ft)	Elevation (ft)	USCS Group Symbol	Ma	aterial Description		Sample Name	Sample Location	Lithology	Well	Constituction	ı	Remarks		
						92-0.	٠			3				
-						B/W-27D@70-7	٠							
- 75—		SP	sand with ~5% co clay and silt. The	and (73.5 - 75) e, no odor. Primarily med arse grain sand to 5 mm sand is subangular to su plastic, and do not react t	and ~15% brounded.	B/W-2		<u>, °, † d</u> °l,						
-		SC	sand with ~10% g silt. The sand and	- 81) e, no odor. Primarily me ravel to 10 mm and ~25% d gravel are subangular to fines are nonplastic, and	% clay and o									
80-														
_		SM	with a maximum of and silt. The sand are nonplastic to le	33) odor. Primarily medium grain size of 2 mm and ~ d is angular to subangula ow plasticity and toughne a banding, and do not rea	35% clay r. The fines ess, have a									
-		SC	sand with ~10% g silt. The sand and	- 87) e, no odor. Primarily me ravel to 10 mm and ~25% d gravel are subangular to fines are nonplastic, and	% clay and o									
85 —														
90-		SW-SM	Saturated, dense sand with ~10% g silt. The sand and subrounded. The to HCl. There are	nd with Silt (87 - 93) e, no odor. Primarily med ravel to 15 mm and ~159 d gravel are subangular to fines are nonplastic, and a few more fines toward o gravel toward 92-93 foo	% clay and I do not react top of									
90-									NIKKUKKU T					

·	ect Na Boring		Ingion Second Step Hydrogeologic Framework Assessment Ionitoring Well: X Piezometer: Boring/Well	Nu	mbe	r:[P: B/W-27	D Sheet 6 of 14
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
95-		SC SP-SM	Clayey Sand (93 - 93.5) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~25% clay and silt. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl. Poorly Graded Sand with Silt (93.5 - 100) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~15% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.	B/W-27D@95-100				
100		SP-SM	Poorly Graded Sand with Silt (100 - 102.5) Saturated, dense, no odor. Primarily medium to fine sand with ~5% coarse grain sand to 5 mm and ~15% clay and silt. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCl.					
-		CL	Lean Clay (102.5 - 104.5) Moist, very dense, no odor. Primarily silt and clay with ~15% medium grain sand to 1mm and ~30% fine grain sand. The sand is angular to subangular. The fines have medium plasticity and toughness, and have no reaction to a weak reaction to HCI.					
105 — - - -		SM	Silty Sand (104.5 - 110) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~20% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.			 ✓ ✓		

	ect Na		ington Second Step nydrogeologic Framework Assessment		_	_		oject Number: 132025
Soil I	Boring	:[M	Ionitoring Well: X Piezometer: Boring/Wel	l Nui	nbe	r: <u>B</u>	/W-27[Sheet <u>7</u> of <u>14</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
-		SW-SM	Well-Graded Sand with Silt (110 - 116) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~15% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.		•			
- 115 <i>-</i>				B/W-27D@112-117				
_		SC	Clayey Sand (116 - 117.5) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~20% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.		•			
120—		SW-SM	Well-Graded Sand with Silt (117.5 - 121) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~15% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
-		SC	Clayey Sand (121 - 125) Moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~25% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.					
125 <i>-</i> -		SP-SM	Well-Graded Sand with Silt (125 - 131) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~15% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.					

	ect Na		Ingion Second Step Hydrogeologic Pramework Assessment Ionitoring Well: X Piezometer: Boring/Wel	I NI	— 	R	Pr W-27[O Sheet 8 of 14
S011 1	Boring	:[IVI	Ionitoring Well: X Piezometer: Boring/Wel	ı Nur	nbe	r: <u>_</u> ⊔	7V-27L	Sneet 0 of 14
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
130-								
-		SW	Well-Graded Sand (131 - 132.5) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~10% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
- 135		CL	Lean Clay with Sand (132.5 - 135) Moist, very dense, no odor. Primarily silt and clay with ~45% medium to fine grain sand to ~1mm. The sand is angular to subangular. The fines have medium plasticity and toughness, have a brown color, and do not react to HCl.					
- - - -		SW-SM	Well-Graded Sand with Silt (135 - 145) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~15% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. There is more gravel (~15% to 20%) in the 142-145 foot section.					
- 140 – -	-			-145	•			
-				B/W-27D@140-145				
145 — - -	-	SC	Clayey Sand with Gravel (145 - 149) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~20% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					

Proj	ect Na	me: _Yer	ington Second Step Hydrogeologic Framework Assessment		_		Project N	Number: <u>132025</u>	
Soil 1	Boring	: M	Ionitoring Well: X Piezometer: Boring/Well	l Nur	nbe	r: <u>B</u>	/W-27D	Sheet <u>9</u> of .	14
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks	
150 –	-	SP	Poorly Graded Sand (149 - 151.5) Saturated, dense, no odor. Primarily medium to fine sand with ~10% coarse grain sand to 5mm and ~10% clay and silt. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCl.						
-		SC	Clayey Sand with Gravel (151.5 - 155) Moist, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 25 mm and ~30% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.						
155 — - -		SM	Silty Sand (155 - 160) Moist to saturated, dense, no odor. Primarily fine sand with ~10% medium grain sand to 1mm and ~45% clay and silt. The sand is angular to subangular. The fines are nonplastic to low plasticity and toughness, have a brownish gray color, and do not react to HCl.						
160 -	-	SM	Silty Sand (160 - 162.5) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~25% clay and silt. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.	-					
-	-	SC	Clayey Sand (162.5 - 164.5) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm ~4% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.						
165-		SP-SM	Poorly Graded Sand with Silt (164.5 - 170) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~15% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.		•				

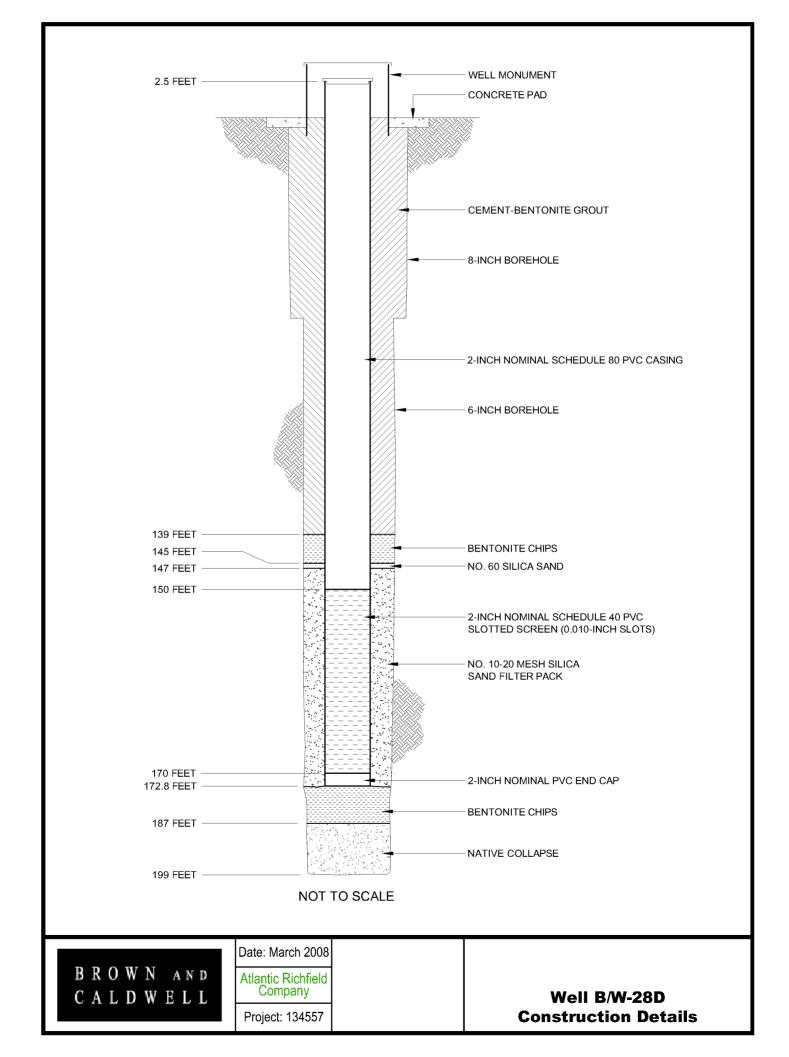
Proj	ect Na	me: _Yen	rington Second Step Hydrogeologic Framework Assessment		—		Pr	oject Number: 132025
Soil 1	Boring	;: M	Monitoring Well: X Piezometer: Boring/Well	II Nur	nbe	r: <u>B</u>	/W-27	Sheet <u>10</u> of <u>14</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
- 170 –	-	CL	Sandy Lean Clay (170 - 179) Moist, very dense, no odor. Primarily silt and clay with ~10% medium grain sand to ~1mm and ~35% fine	B/W-27D@166-171				
- - 175-	-		grain sand. The sand is angular to subangular. The fines have high plasticity, have a brown color, and do not react to HCl.					
- - - 180	-	SM	Silty Sand (179 - 184.5) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% coarse grain sand to 5mm and ~40% clay and silt. The sand is angular to subangular. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.					
-	-		Lean Clay with Sand (184.5 - 186)	B/W-27D@180-185				
185-		CL	Dry to moist, very dense, no odor. Primarily silt and clay with ~50% medium to fine grain sand with a maximum grain size of 2 mm. The sand is angular to subangular. The fines have moderate to high plasticity,					

Proj	ect Na	me: Yeri	ington Second Step Hydrogeologic Framework Assessment		_		Pro	oject Number: <u>132025</u>
Soil l	Boring	: M	onitoring Well: X Piezometer: Boring/Well	Nur	nbe	r: <u> </u>	/W-27D	Sheet <u>11</u> of <u>14</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
		SW-SM	not react to HCl.				88	_
- 190 —			Well-Graded Sand with Silt (186 - 190) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~15% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.					
190		CL	Lean Clay (190 - 192) Moist, very dense, no odor. Primarily silt and clay with ~50% medium to fine grain sand to 1 mm. The sand is angular to subangular. The fines have medium plasticity and toughness, have a brown color, and do not react to HCI.					
- 195		SC	Clayey Sand (192 - 197) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~25% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
-		SC	Clayey Sand (197 - 201) Moist to saturated, dense, no odor. Primarily medium	-				
- - 200 –			to fine sand with ~5% gravel to 10 mm and ~30% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
-		SC	Clayey Sand (201 - 204) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~40% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.					
205-		CL	Lean Clay (204 - 211) Dry to moist, very dense, no odor. Primarily silt and clay with ~15% medium grain sand to 1mm and ~35% fine grain sand. The sand is angular to subangular.					

Proj	ect Na	ıme: <u>Yen</u>	ington Second Step Hydrogeologic Framework Assessment		_		P	roject Number:132025
Soil 1	Boring	;:[] M	Ionitoring Well: X Piezometer: Boring/Wel	l Nui	nbe	r: <u>B</u> /	W-27	Sheet <u>12</u> of <u>14</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
- - 210 – -		SP-SM	Poorly Graded Sand with Silt (211 - 217.5) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~15% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
- 215 — - -				2 215-220	• • •			
-		SW	Well-Graded Sand with Gravel (217.5 - 220) Saturated, dense, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~10% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.	B/W-27D@215-220				
220		SP-SM	Poorly Graded Sand with Silt (220 - 222) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~15% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
-	-	CL SM	Lean Clay with Sand (222 - 222.5) Dry to moist, very dense, no odor. Primarily silt and clay with ~50% medium to fine grain sand to 2 mm. The sand is angular to subangular. The fines have moderate to high plasticity, are moderately tough, and do not react to HCl. Silty Sand (222.5 - 225) Moist, dense, no odor. Primarily medium to fine sand					

ū			Ington Second Step Hydrogeologic Framework Assessment			_		roject Number: 132025
Soil I	Boring	: M	fonitoring Well: X Piezometer: Boring/W	ell Nu	mbe	r: <u>B</u>	/W-27[Sheet <u>13</u> of <u>14</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
225 —		SW-SM	with ~5% gravel to 5 mm and ~20% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl. Well-Graded Sand with Silt (225 - 233) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~15% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.					
230 —								B/W-27D screened from 230 to 250 feet
_		SC	Clayey Sand (233 - 235) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~35% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
- - - -		SW	Well-Graded Sand (235 - 246) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 25 mm and ~10% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
240 — - -				B/W-27D@240-245				

_			Postponia Wells V Diogramator:		—	R		oject Number: 132025
Soil	Boring	:[M	onitoring Well: X Piezometer: Boring/We	II Nui	nbe	r:	VV-27L	Sheet <u>14</u> of <u>14</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
- 245 — -			Olanov On 1/040, 047 F)		•			
-		SC	Clayey Sand (246 - 247.5) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~20% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
-		SP	Poorly Graded Sand (247.5 - 250) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~10% clay and silt. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
250 –			Bottom of Borehole at 250 feet below ground surface.					



Brown and Caldwell BORING LOG

Proj	ect Na	me: _Yer	ington Second Step Hydrogeologi	ic Framework Assessment				Pr	oject Number:	132025
Soil 1	Boring	: M	Ionitoring Well: X Piezomet	er: Boring/Well	Nu	mbe	r: _B	W-28I)	Sheet <u>1</u> of <u>11</u>
Bori	ng Loc	cation: Nor	th side of road, one mile west on Am	nanett Way			thing:			Easting:
Drill	ing Co	ontractor:	Boart Longyear	Driller: R. Salois		Gro	und S	urface	vation: feet ar Elevation: fe	eet amsl
Drill	ing Eq	uipment: (GP24-300RS	Borehole Diameter:6-inches			e Start		15/07	Date Finished: 6/27/07
Drill	ing Mo	ethod: Son	nic	Drilling Fluid: Water		Con Dep	npleteo th:	i 199) fbgs	Water Depth: fbmp
Sam	pling N	Method: (Core Barrel							STRUCTION
Well	Seal:	Bentonite	and Cement			Typ of V	e and Vell Ca	Diame asing:	ter 2-inch Sch	nedule 80 PVC
Logg	ged By	: C. Gardr	ner, P. Spillers and C. Strauss			Slot	Size:	0.010	inch Filter Ma	aterial: #10-20 Silica Sand
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material De	escription	Sample Name	Sample Location	Lithology	Well Construction		Remarks
		SP	Poorly Graded Sand with C Dry, loose, no odor. Primar with ~15% gravel up to 100 r	rily medium to coarse sand			° ()		Method D-248	drilled cuttings based on ASTM 38 (the visual-manual procedure),
-	-	SP	clay. The sand and gravel ar The fines are nonplastic, and HCl. Zone has a few 100 mr surface. Poorly Graded Sand (1 - 7.	re angular to subangular. I have a strong reaction to m pieces of granite at					grain-size deto based on the System.	erminations and nomenclature Unified Soil Classification rvey data is expressed in the
-			Dry, loose, no odor. Primar with ~5% gravel to 10 mm ar sand and gravel are angular are nonplastic, and have a st	rily medium to fine sand nd ~15% silt and clay. The to subangular. The fines					Sharp contact	Plane system, Nevada West s indicated by solid lines, entacts indicated by dashed line.
5-									otherwise. WELL DESIG	below land surface unless stated SN for B/W-28D:
-	_								Bentonite Chi No. 60 Silica	reet. tronite Grout: 0 - 139 feet ps: 139 - 145 feet Sand: 145 - 147 feet Sand Filter Pack: 147 - 172.8
-		SP	Poorly Graded Sand with (Dry, loose, no odor. Primar ~15% gravel to 50 mm and ~ sand and gravel are angular are nonplastic, and do not re-	rily coarse to fine sand with 10% silt and clay. The to subangular. The fines			° ()		Slotted Scree Native Collaps	al Schedule 80 PVC 0.010 n: 150 - 170 feet se: 187 - 199 feet ntonite Fill: 172.8 - 187 feet
10-		SM	Silty Sand (9 - 10) Dry, loose, no odor. Primar with ~5% coarse sand and g	ravel to 5 mm and ~25%					Screen interva	ells at this location: 3 als for paired wells are labeled at
10 - -		SW-SM	silt and clay. The sand and c subangular. The fines are no strong reaction to HCI. Well-Graded Sand with Sil Dry, loose, no odor. Primar ~20% gravel to 30 mm and ~ sand and gravel are angular are nonplastic, and have a w HCI.	t and Gravel (10 - 13.5) rily coarse to fine sand with -10% silt and clay. The to subangular. The fines					the installed d	epths.
-		SP-SM	Poorly Graded Sand with S Dry, loose, no odor. Primar with ~5% gravel to 25 mm ar gravel is angular to subangul subangular to subrounded.	rily medium to fine sand nd ~15% silt and clay. The ar and the sand is						

Proj	ect Na	me: _Yer	ngton Second Step Hydrogeologic Framework Assessment		_		Proj	ect Number:132025
Soil I	Boring	: M	onitoring Well: X Piezometer: Boring/Well	Nur	nbe	r: <u>B</u>	/W-28D	Sheet <u>2</u> of <u>11</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
		SP-SM	\and do not react to HCl.					
-			Poorly Graded Sand with Silt (15 - 17.5) Dry, loose, no odor. Primarily medium to fine sand with ~10% gravel to 25 mm and ~10% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
-		SM	Silty Sand (17.5 - 20) Dry, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have no reaction to a weak reaction to HCl.					
-		SP	Poorly Graded Sand (20 - 23) Dry, loose, no odor. Primarily medium to fine sand with ~25% gravel to 80 mm and ~5% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.					
-		SP-SM	Poorly Graded Sand with Silt and Gravel (23 - 25) Dry, loose, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.					
- - -		SM	Silty Sand (25 - 29.5) Dry, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.					
30-		SM	Silty Sand (29.5 - 30.5) Dry, dense, no odor. Primarily medium to fine sand with a maximum grain size of 1 mm and ~30% silt and clay. The sand is subangular to subrounded. The fines					
- -		SM	are nonplastic, and do not react to HCl. Silty Sand (30.5 - 32) Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to 25 mm and ~15% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic, and do not react to HCl. Well-Graded Sand (32 - 34)					
			Dry to moist, dense, no odor. Primarily medium to fine sand with trace coarse sand up to 4 mm and ~10%					

Proj	ect Na	me:Yer	ington Second Step Hydrogeologic Framework Assessment				Pr	oject Number: 132025
Soil I	Boring	: M	fonitoring Well: X Piezometer: Boring/Wel	l Nur	nbe	r: <u>B</u>	/W-28[Sheet <u>3</u> of <u>11</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
35		SM	The fines are nonplastic, and do not react to HCI. Silty Sand with Gravel (34 - 38.5) Dry to moist, dense, no odor. Primarily medium to coarse sand with ~15% gravel to 40 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a weak reaction to HCI.					
- 40 — -		SC SM	Clayey Sand (38.5 - 39) Dry, dense, no odor. Primarily medium to fine sand with trace coarse sand to 4 mm and ~35% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, and do not react to HCI. Silty Sand with Gravel (39 - 49) Dry to moist, dense, no odor. Primarily medium to coarse sand with ~15% gravel to 40 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.Zone is dry from 38-44.5 feet, moist from 44.5-48.5 feet, and saturated at 48.5 feet.	-				■ B/W-28S screened from 40 - 60 feet.
- 45 — -								
50-	-	SP	Poorly Graded Sand (49 - 51.5) Saturated, dense, no odor. Primarily medium to coarse sand with ~10% gravel to 15 m and ~5% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.	-55	•	6 00		
-	_		No Recovery (51.5 - 55) Assumed to be same as 49-51.5 foot zone.	W-28D@50-55				

٠			Ingloir Second Step Hydrogeologic Framework Assessment		_	D		oject Number:
Soil	Boring	:[_] M	Ionitoring Well: X Piezometer: Boring/Wel	l Nui	nbe	r: <u> </u>	/W-28E	Sheet <u>4</u> of <u>11</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
55-					•			
-		SM	Silty Sand with Gravel (55 - 59) Saturated, dense, no odor. Primarily medium to coarse sand with ~15% gravel to 40 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.					
60-	-	SM	Silty Sand with Gravel (59 - 60) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~15% gravel to 15 mm and ~20% silt and clay. The sand and gravel are angular to					
-		SM	subangular. The fines are nonplastic, and do not react to HCl. Silty Sand (60 - 63) Moist, dense, no odor. Primarily coarse to fine sand with ~5% gravel to 25 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCl.					
65-		CL	Sandy Lean Clay (63 - 65) Dry, very dense, no odor. Primarily silt and clay with trace gravel and coarse sand to 10 mm and ~35% medium to fine grained sand. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, have a brown color (7.5YR 5/4), and have no reaction to strong reaction to HCI.					
		CL	Sandy Lean Clay (65 - 71) Moist, dense, no odor. Primarily silt and clay with ~5% gravel to 25 mm and ~45% coarse to fine sand. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCl.					
-	_	sw	Well-Graded Sand (71 - 72.5) Saturated, very dense, no odor. Primarily coarse sand with ~10% gravel to 20 mm and ~10% silt and clay	-				

Proj	ect Na	me: Yer	ngton Second Step Hydrogeologic Framework Assessment		Pro	oject Number:132025			
Soil I	3oring	: M	onitoring Well: X Piezometer: Boring/Wel	l Nu	mbe	r:B/	W-28D	Sheet <u>5</u> of <u></u>	<u>11</u>
		_	•						
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks	
			The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.	70-75	٥	*****			
75-		SM	Silty Sand (72.5 - 75) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.	B/W-28D@70-75					
-		SW	Well-Graded Sand with Gravel (75 - 77) Moist, dense, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have a strong reaction to HCl.						
		SM SM	Silty Sand (77 - 77.5) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCI. Silty Sand (77.5 - 80) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 25 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The						
-		SM	fines are nonplastic, and do not react to HCl. Silty Sand (80 - 81.5) Moist, dense, no odor. Primarily medium to fine sand with ~15% gravel to 25 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.						
-		SP-SM	Poorly Graded Sand with Silt (81.5 - 86) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~10 % silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.						
85-									
-		CL SM	Sandy Lean Clay (86 - 86.5) Moist, very dense, no odor. Primarily silt and clay with ~5% gravel to 10 mm and ~30% medium to fine grained sand. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and have a strong reaction to HCl. Silty Sand (86.5 - 91) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 20 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, and have a weak reaction to HCl.						
90-									

•	ect Na Boring		onitoring Well: Piezometer: Boring/Well	Nui	mbe	r: <u>B</u>	Pr W-28[O Sheet <u>6</u> of <u>11</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
_		SM	Silty Sand (91 - 92.5) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The — fines are nonplastic, and have a strong reaction to HCl. , ——					
-		SM	Silty Sand (92.5 - 94.5) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
95-		SM SW-SM	Silty Sand (94.5 - 95) Saturated, dense, no odor. Primarily medium to coarse sand with ~5% gravel to 20 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.					B/W-28I screened from 95 to 115 feet.
-			Well-Graded Sand with Silt (95 - 98.5) Saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.					
100-		СН	Sandy Fat Clay (98.5 - 100) Dry to moist, dense, no odor. Primarily silt and clay with ~5% gravel to 30 mm and ~15% medium to fine grained sand. The sand and gravel are angular to subangular. The fines have moderate to high plasticity, are moderately tough, and have a strong reaction to					
-		SW	Well-Graded Sand with Gravel (100 - 101.5) Saturated, loose, no odor. Primarily coarse sand with ~20% gravel to 15 mm and ~5% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCl.	3-105				
-		SM	Sandy Lean Clay (101.5 - 102.5) Moist, dense, no odor. Primarily silt and clay with ~5% gravel to 10 mm and ~40% medium to fine grained sand. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCI.	B/W-28D@100-1	•			
105-		ML	Silty Sand (102.5 - 104) Moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a strong reaction to		•			
-		CL	HCI. Sandy Silt (104 - 105) Dry to moist, dense, no odor. Primarily silt and clay with ~40% fine sand with a maximum grain size of 0.1 mm. The sand is subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCI.					
-		CL	Sandy Lean Clay (105 - 107.5) Dry to moist, dense, no odor. Primarily silt and clay with ~15% medium to fine grained sand with trace gravel sized to 10 mm. The sand and gravel are subangular to subrounded. The fines have moderate to high plasticity, are moderately tough, and do not react to HCI.					
110-			Sandy Lean Clay (107.5 - 112) Dry to moist, dense, no odor. Primarily silt and clay with ~5% grayel to 10 mm and ~30% medium to fine					

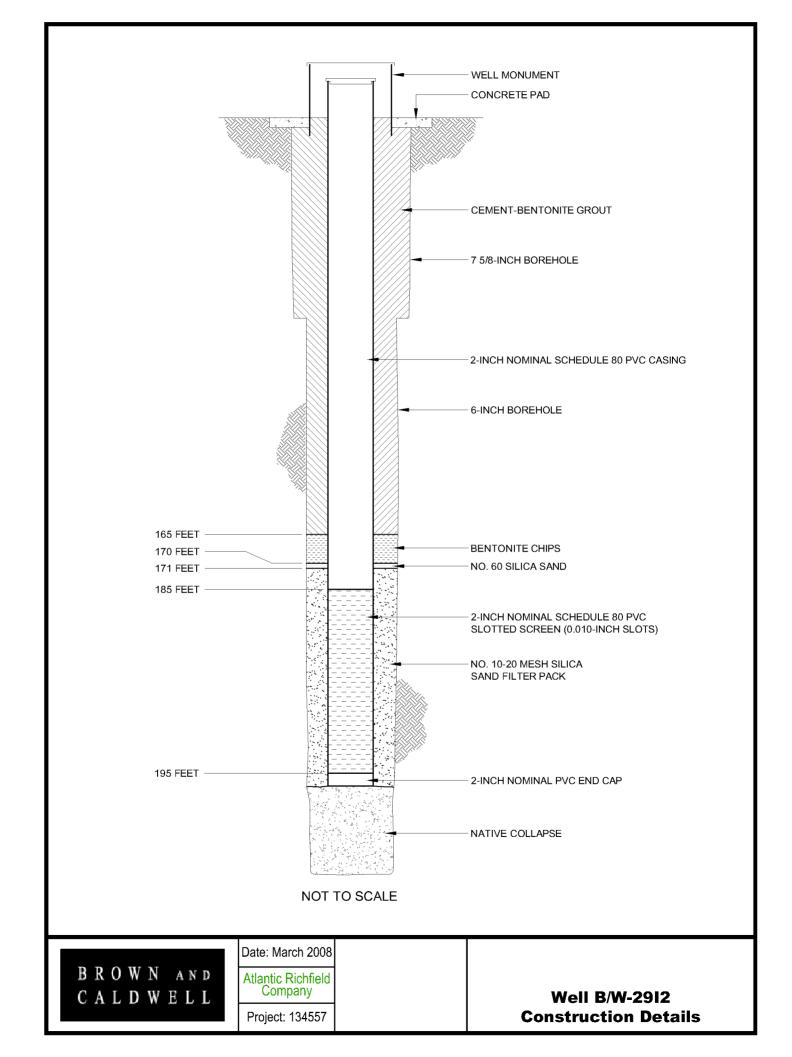
Proj	ect Na	me: Yer	ngton Second Step Hydrogeologic Framework Assessment				Pr	oject Number: 132025
Soil I	Boring	: M	onitoring Well: X Piezometer: Boring/We	II Nu	mbe	r:B	W-28[Sheet <u>7</u> of <u>11</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
-			grained sand. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and have a strong reaction to HCl.					
-		SM SC	Silty Sand (112 - 113) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, and have no reaction to a weak reaction to HCI.	_				
115-			Clayey Sand (113 - 116) Moist, very dense, no odor. Primarily medium to fine sand with ~5% coarse sand a gravel to 10 mm and ~35% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCI.					
-		SM SC	Silty Sand (116 - 116.5) Moist to saturated, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have no reaction to a weak reaction to HCI.	_				
-		SM	Clayey Sand (116.5 - 117.5) Moist, very dense, no odor. Primarily medium to fine sand with ~5% coarse sand a gravel to 10 mm and ~35% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and have a strong reaction to HCI.					
120-		SM	Silty Sand (117.5 - 118.5) Moist to saturated, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have no reaction to a weak reaction to HCI.					
-		SM	Sandy Silt (118.5 - 120) Moist, dense, no odor. Primarily silt and clay with ~2% gravel to 5 mm and ~43% medium to fine grained sand. The sand and gravel are subangular to	 B/W-28D@120-125	•			
-		SM	subrounded. The fines are nonplastic to low plasticity and toughness, and have a weak reaction to HCl. Silty Sand (120 - 121.5) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~40% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and	B/W-28	•			
125 — - -		SM	have a strong reaction to HCI. Silty Sand (121.5 - 122.5) Moist to saturated, dense, no odor. Primarily medium to fine sand with grain size to 2 mm and ~45% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and have a weak to strong reaction to HCI. Silty Sand (122.5 - 124.5) Moist to saturated, dense, no odor. Primarily fine sand with a maximum grain size of 0.1 mm and ~40% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and have a strong reaction to					
			HCI. Silty Sand (124.5 - 125) Saturated, dense, no odor. Primarily medium to fine					

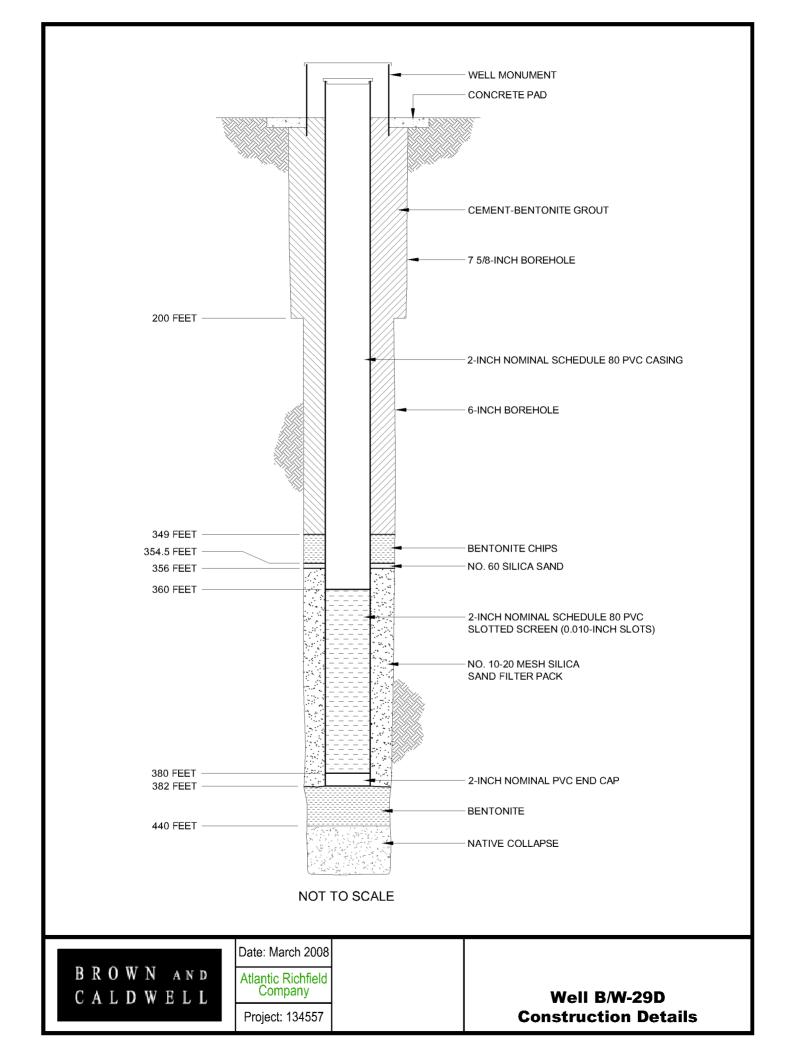
Proj	ect Na	me: _Yer	rington Second Step Hydrogeologic Framework Assessment		_		Pro	oject Number: <u>132025</u>
Soil 1	Boring	;:[] M	fonitoring Well: X Piezometer: Boring/Well	Nur	nbe	r: <u> </u>	/W-28E	Sheet <u>8</u> of <u>11</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
130 - -		SM	sand with a maximum grain size of 1 mm and ~15% silt and clay. The sand is angular to subangular. The fines are nonplastic, and have no reaction to a weak reaction to HCI. Silty Sand (125 - 130) Moist to saturated, dense, no odor. Primarily fine sand with maximum grain size of 0.5 mm. The sand is subangular to subrounded. The fines have low to medium plasticity and toughness, and have a strong reaction to HCI. Silty Sand (130 - 134) Saturated, dense, no odor. Primarily medium to fine					
- 135 – -		SC	sand with a maximum grain size of 1 mm and ~15% silt and clay. The sand is angular to subangular. The fines are nonplastic, and have no reaction to a weak reaction to HCI. Clayey Sand (134 - 139) Moist, dense, no odor. Primarily fine sand with ~40% silt and clay and trace coarse sand and gravel to 15 mm. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, and have a strong reaction to HCI.					
- 140 — -		CL	Sandy Lean Clay (139 - 140) Dry, very dense, no odor. Primarily silt and clay with ~40% medium to fine grained sand and ~5% gravel to 10 mm. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and have a weak reaction to HCl. Sandy Lean Clay (140 - 142) Dry to moist, very dense, no odor. Primarily silt and clay with ~5% gravel to 5 mm and ~35% medium to fine grained sand. The sand and gravel are angular to subangular. The fines have medium plasticity and					
- 145 — -		SM	toughness, and do not react to HCl. Silt (142 - 145) Saturated, very dense, no odor. Primarily silt and clay with ~15% medium to fine grained sand and ~ 10% coarse sand with a maximum grain size of 1 mm. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCl. Silty Sand (145 - 147) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% coarse grained sand and gravel to 5 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.	145-150				
-		SW	Well-Graded Sand (147 - 157) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~5% silt and clay. The sand and gravel are subangular to subrounded.	W-28D@145-150				

·	ect Na Boring		fonitoring Well: X Piezometer: Boring/Wel	l Misse	— mbo	B	Projec W-28D	Sheet <u>9</u> of <u>11</u>
Son	DOIIII		omtoring wen. Z	ı Nui	iibe	r. <u> </u>	W 20B	Sheet 2 of 11
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
- 150 — -			The fines are nonplastic, and do not react to HCl.		•			B/W-28D screened from 150 to 170 feet.
- 155 — -								
- - 160 — -		CL SC	Sandy Lean Clay (157 - 158) Dry, dense, no odor. Primarily silt and clay with trace coarse sand and gravel to 10 mm and ~25% fine grained sand. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and have a weak to strong reaction to HCl. Clayey Sand (158 - 164) Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~35% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and do not react to HCl.	-				
- 165 — -		SC	Clayey Sand with Gravel (164 - 168) Dry, dense, no odor. Primarily medium to fine sand with ~15% gravel to 35 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines have low to medium plasticity with low toughness, and have a weak to strong reaction to HCI.					

Project Name:Yerington Second Step Hydrogeologic Framework Assessment													
Soil l	Soil Boring: Monitoring Well: Monitoring												
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks					
				T									
170-		SC	Clayey Sand (168 - 170) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 20 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and do not react to HCI.	18-173	•								
-	-	SP-SM SC	Poorly Graded Sand with Silt (170 - 171) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 20 mm and ~ 10% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCI.	B/W-28D@168-173									
- - 175 —			Clayey Sand (171 - 186) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 90 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines have low to medium plasticity and toughness, and have a weak to strong reaction to HCI.		•								
-													
- 180 – -													
-													
185-			Silty Sand (186 - 193)										

Proj	ect Na	.me: <u>Yer</u> i	ington Second Step I	Hydrogeologic Framework	Assessment		_		Pr	oject Number: 132025	
Soil l	Boring:	: M	Ionitoring Well: X	Piezometer:	Boring/Wel	l Nun	nbei	r:B/	/W-28[<u> </u>	Sheet <u>11</u> of <u>11</u>
										1	
Depth (ft)	Elevation (ft)	M USCS Group Symbol	N	Naterial Description		Sample Name	Sample Location	Lithology	Well Construction	Remarks	
- - 190 —		SIVI	medium to fine s ~20% siltand cla subangular. The and toughness, a some clayey san	ted, very dense, no odor. It and with ~10% gravel to 4 y. The sand and gravel are fines are nonplastic to love and do not react to HCl. The seams, up to 6-inches, whave higher plasticity.	40 mm and re angular to w plasticity here are	34	•				
-			Clayey Sand (1	93 - 199)		B/W-28D@189-194					
- 195 — - -		SC	Moist, dense, n with ~10% grave The sand and gr fines have low pl	so - 199) to odor. Primarily coarse to all to 30 mm and ~30% silt are lare angular to subang lasticity and toughness, and ere are some thin silty san	and clay. gular. The d do not						
-			Bottom of Boreh	ole at 199 feet below groui	nd surface.	-					





Brown and Caldwell BORING LOG

Proje	ect Na	me: Yer	ington Second Step Hydrogeolog	ic Framework Assessment		_		P	roject Number:	132025	
Soil I	Boring	: M	Ionitoring Well: X Piezomet	er: Boring/Well	Nu	mbe	r: <u>B</u>	/W-29	D D	Sheet <u>1</u> of <u>26</u>	
Bori	ng Loc	cation: On	Sulfide Tailings in Mine Site						1434.5	Easting: 326924.6	
Drilli	ing Co	ontractor:	Boart Longyear	Driller: R. Salois		Top of PVC Elevation: 4412.84 feet amsl Ground Surface Elevation: 4409.9 feet amsl Date Started: 8/9/07 B-inches Date Finished: 9/24/07					
Drilli	ing Eq	uipment: (GP24-300RS	Borehole Diameter:8-inches	to						
Drilli	ing M	ethod: Son	iic	Drilling Fluid: Water		Completed Water Depth: 490 fbgs Depth: fbmp					
Samp	oling N	Method:	Core Barrel							STRUCTION	
Well	Seal:	Bentonite	and Cement			Typ of V	e and Vell C	Diam asing:	eter 2-inch Sch	nedule 80 PVC	
Logg	ed By	: P. Spille	rs, R. Banda, and C. Strauss			Slot	Size:	0.010	inch Filter M	aterial: #10-20 Silica Sand	
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Do	escription	Sample Name	Sample Location	Lithology	Well		Remarks	
5	4405—	OSO	Sulfide Tailings (0 - 3) Dry, loose, no odor. Primar with ~25% gravel to 15 mm a The sand and gravel are sub The fines are nonplastic, and with ~10% silt and clay. The fines are nonplastic, have a y do not react to HCl. Sulfide Tailings (5.5 - 49.5 Dry, loose, no odor. Primar with ~10% silt and clay. The fines are nonplastic, have a life react to HCl. There are silty throughout zone.	and ~10% silt and clay. angular to subrounded. I do not react to HCl. rily medium to fine sand sand is subround. The yellowish brown color, and inity medium to fine sand sand is subround. The gight grey color, and do not	S	es es			Description of Method D-24t grain-size det based on the System. Horizontal Su Nevada State zone, in feet. Sharp contact gradational contenties. WELL DESIGN PVC Stickup: Cement - Ber Bentonite Chi No. 60 Silica 2-inch Nomin: Slotted Screen Native Collapy Additional Beil Number of we	atonite Grout: 0-349 feet ps: 349-354.5 feet Sand: 354.5-356 feet Sand Filter Pack: 356-382 feet al Schedule 80 PVC 0.010 ns: 360-380 feet se: 440-490 feet ntonite Fill: 382-440 feet sells at this location: 4 als for paired wells are labeled at	
_	- 4395										

Proj	ect Na	me: Ye	Yerington Second Step Hydrogeologic Framework Assessment						Project Number:132025					
Soil	Boring	: N	Monitoring Well: X	Piezometer:	Boring/Well	Nun	nbei	r: <u>B</u> /	W-29[Sheet <u>2</u> of <u>26</u>	ī			
Depth (ft)	Elevation (ft)	USCS Group Symbol		Material Description		Sample Name	Sample Location	Lithology	Well Construction	Remarks				
20-	4390													
25-	4385 —													
30-	4380													

•	ect Na Boring		Monitoring Well: X Piezometer: Boring/Wel	l Nui	— nbe	r: <u>B</u>		O Sheet 3 of 26
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
35-	4375 —							
40-	4370							
- 45 -	4365							
50-	4360	. CH	Fat Clay (49.5 - 52) Moist, soft, no odor. Primarily silt and clay with no sand or gravel. Zone is the clay liner for the sulfide tailings. Has an olive gray to gray mottled color. Reacts strongly to HCl.					
-	_	CL	Lean Clay (52 - 56) Moist, very soft, no odor. Primarily silt and clay with no sand or gravel. Zone is the clay liner for the sulfide					

Soil Boring: Monitoring Well: X Piezometer: Boring/Well Number: B/W-29D Sheet 4 of 26												
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks				
55-	4355 —	-	tailings. Has a gray color. Reacts strongly to HCl.									
-		CH SC	High Plasticity Clay (56 - 56.5) Dry to moist, firm, no odor. Primarily silt and clay with no sand or gravel. Zone is the clay liner for the sulfide tailings. Has a brown color and does not react to HCl. Clayey Sand (56.5 - 58) Dry to moist, medium dense, no odor. Primarily									
60-	4350 —		medium to fine sand with ~5% gravel to 7 mm and ~40% silt and clay. The gravel is subangular to subrounded and the sand is subrounded to rounded. The fines are nonplastic, have a brown color, and do not react to HCl. No Recovery (58 - 60)									
- 60	-	SM	Silty Sand (60 - 61.5) Dry to moist, medium dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.									
-	_	SM	Silty Sand (61.5 - 64) Moist, medium dense, no odor. Primarily medium to fine sand with no gravel and ~50% silt and clay. The sand is angular to subangular. The fines are nonplastic, and do not react to HCI.									
65-	4345 —	CH	Fat Clay (64 - 66) Dry to moist, dense, no odor. Primarily silt and clay with no sand or gravel. The fines have moderate to high plasticity, are moderately tough, have a dark grey color, and do not react to HCI.									
-	-	SM	Silty Sand (66 - 67) Moist to saturated, medium dense, no odor. Primarily medium to fine sand with ~5% coarse sand to 2 mm and ~40% silt and clay. The sand is subrounded to									
_	_	SP	rounded. The fines are nonplastic, and do not react to HCl. Poorly Graded Sand (67 - 68)									
-	-	ML	Saturated, loose, no odor. Primarily medium to fine sand with no gravel and ~10% silt and clay. The sand is subrounded to rounded. The fines are nonplastic, have a brown color, and do not react to HCl. Sandy Silt (68 - 70)									
70-	4340 —	SW	Moist to saturated, firm, no odor. Primarily silt and clay with no gravel and ~15% fine grained sand. The fines are nonplastic, and do not react to HCl. There is a 4-inch seam of saturated sand at 69 feet.									
			Well-Graded Sand (70 - 83.5) Saturated, loose, no odor. Primarily coarse sand with ~5% gravel to 7 mm and trace silt and clay. The sand and gravel are subangular to subrounded. The fines									

_	ect Na Boring		Monitoring Well: X Piezometer: Boring/Wel	l Nu	mbe	r: <u>B</u>	Pr: /W-29[O Sheet <u>5</u> of <u>26</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
75-	- 4335 - -		are nonplastic, and do not react to HCl.	B/W-29@73-78				
80-	4330 —							
85 –	4325	SM	Silty Sand (83.5 - 85.5) Saturated, medium dense, no odor. Primarily coarse sand with a maximum grain size of 3 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCI. Silty Sand (85.5 - 88) Moist to saturated, medium dense, no odor. Primarily medium to fine sand with ~30% silt and clay. There is no reaction to HCI.	_				
90-	4320 —	CL SM	Sandy Lean Clay (88 - 89.5) Moist, dense, no odor. Primarily silt and clay with ~40% medium to fine grained sand. The sand is subrounded to rounded. The fines have medium plasticity and toughness, have a dark brown color, and do not react to HCI. Silty Sand (89.5 - 92.5) Saturated, loose, no odor. Primarily medium to fine sand with ~10% coarse sand and ~20% silt and clay. The sand is subrounded to rounded. The fines are					

ū			onitoring Well: X Piezometer: Boring/Well	Mur	— nho	- B	Pr W-291/	Sheet <u>6</u> of <u>26</u>
2011 1	Boring	1V1	omitoring wen. A rezoneter. Boring/wen	Nui	nbe	ı. <u>_</u>	744 201	Sheet 01
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
_	_		nonplastic, and do not react to HCl.					
95—	4315 —	CL	Sandy Lean Clay (92.5 - 96.5) Moist, dense, no odor. Primarily silt and clay with ~40% medium to fine grained sand. The sand is subrounded to rounded. The fines have medium plasticity and toughness, have a dark brown color, and do not react to HCI.					B/W-29S screened from 95 to 115 feet.
	_	СН	Fat Clay (96.5 - 97.5)					
			Dry to moist, dense, no odor. Primarily silt and clay with ~5% fine grained sand. The fines have moderate to high plasticity, are moderately tough, and do not					
_	_	CL	react to HCl. Sandy Lean Clay (97.5 - 98)		•			
100-		SP	Dry to moist, dense, no odor. Primarily silt and clay with ~40% medium to fine grained sand. The sand is subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCI. Poorly Graded Sand (98 - 103.5) Saturated, loose, no odor. Primarily medium to fine sand with no gravel and ~10% silt and clay. The sand is subrounded to rounded. The fines are nonplastic, and do not react to HCI.	B/W-29@98-103				
105—	- 4305 —	SM	Silty Sand with Gravel (103.5 - 105) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 7 mm and ~40% silt and clay. The sand and gravel are subrounded to rounded. The fines are nonplastic, and do not react to HCI.					
		SM	Silty Sand (105 - 106) Moist to saturated, medium dense, no odor. Primarily			000		
-	-	ML	medium to fine sand with ~20% gravel to 10 mm and ~30% silt and clay. The gravel is subangular to subrounded and the sand is subrounded to rounded. The fines are nonplastic, and do not react to HCI. Sandy Silt (106 - 112) Moist to saturated, dense, no odor. Primarily silt and clay with ~30% fine grained sand. The fines are nonplastic, and do not react to HCI.					

	ect Na Boring		Ingion Second Step Hydrogeologic Planework Assessment Ionitoring Well: X Piezometer: Boring/We	ll Nui	mbe	r: <u>B</u>	Pr W-290	O Sheet 7 of 26
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
	4295	SM	Silty Sand (112 - 114) Moist to saturated, medium dense, no odor. Primarily medium to fine sand with ~10% coarse sand to 5 mm and ~20% silt and clay. The sand is subrounded to rounded. The fines are nonplastic, and do not react to HCI. Sandy Lean Clay (114 - 115) Dry to moist, very dense, no odor. Primarily silt and clay with ~10% gravel to 10 mm and ~20% coarse grained sand. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Fat Clay (115 - 118.5) Dry to moist, very dense, no odor. Primarily silt and clay with no gravel and trace fine grained sand. The fines have moderate to high plasticity, are very tough, and do not react to HCI.					
- 120 - - -	- 4290 - -	- SM	Silty Sand (118.5 - 123.5) Saturated, loose, no odor. Primarily fine sand with ~30% silt and clay. The sand is subrounded to rounded. The fines are nonplastic, and do not react to HCl.					B/W-29I1 screened from 122 to 132 feet.
125 –	4285	SM	Poorly Graded Sand with Gravel (123.5 - 125) Saturated, dense, no odor. Primarily coarse sand with~15% gravel to 7mm and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl. Silty Sand (125 - 128.5) Saturated, dense, no odor. Primarily coarse sand with ~5% gravel to 7mm, ~35% medium to fine grain sand and 20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.	B/W-29@124-129				
		SM	Silty Sand (128.5 - 130) Saturated, dense, no odor. Primarily medium to fine		•			

Proj	ect Na	ıme: _Yeri	ngton Second Step Hydrogeologic Framework Assessment		_		Pro	oject Number: <u>132025</u>	
Soil l	Boring	g: M	onitoring Well: X Piezometer: Boring/We	II Nur	nbe	r: <u>B</u>	/W-29E	Sheet <u>8</u> of <u>26</u>	
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks	
130-	4280	SM	sand with ~5% gravel to 5 mm and 20% silt and clay. The gravel is subangular to subrounded and the sand is subrounded to rounded. The fines are nonplastic, and						
-	4275 —		Silty Sand (130 - 135) Moist to saturated, dense, no odor. Primarily fine sand with ~40% silt and clay. The sand is subrounded to rounded. The fines are nonplastic, and do not react to HCl. There is a four-inch saturated medium grained sand seam at 132.5 feet bgs.						
135 —	4275	SW	Well-Graded Sand (135 - 136.5) Saturated, loose, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~15% silt and clay. The gravel is subrounded and the sand is subrounded to rounded. The fines are nonplastic, and do not react to HCI.						
-	-	- SM - SW	Silty Sand (136.5 - 137.5) Moist to saturated, loose, no odor. Primarily fine sand with~40% silt and clay. The sand is subrounded to rounded. The fines are nonplastic, and do not react to HCI.						
- 140 <i>-</i> -	4270 —	SM	Well-Graded Sand (137.5 - 138.5)						
-	-	CL	Silty Sand (138.5 - 140) Saturated, loose, no odor. Primarily fine sand with ~40% silt and clay. The sand is subrounded to rounded. The fines are nonplastic, and do not react to HCI.						
-	-	-	Lean Clay (140 - 143.5) Moist, firm, no odor. Primarily silt and clay with trace sand and gravel. The fines have moderate to high plasticity, are moderately tough, and do not react to HCl.						
-	-	- ML	Sandy Silt (143.5 - 144.5) Moist to saturated, soft, no odor. Primarily silt and clay with ~30% medium to fine grain sand with a						
145-	4265	- CH	maximum grain size of 3 mm. The sand is subrounded to rounded. The fines are nonplastic, and do not react to HCl.						
-	-	SP	Fat Clay (144.5 - 145.5) Dry to moist, dense, no odor. Primarily silt and clay with trace sand and gravel. The fines have moderate to high plasticity, are very tough, and do not react to HCl.						
_	-	-	Poorly Graded Sand (145.5 - 149) Saturated, loose, no odor. Primarily fine sand with ~15% silt and clay. The sand is subrounded to rounded. The fines are nonplastic, and do not react to						

	ect Na Boring		fonitoring Well: X Piezometer: Boring/Wel	l Nur	— nbe	r: _B	P W-29/	Policet Number: 132023		
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks		
150-	4260 —	SC	Clayey Sand (149 - 150) Moist, dense, no odor. Primarily medium to fine sand with ~50% silt and clay. The fines are nonplastic, and do not react to HCl.							
-		ML	Sit (150 - 155) Saturated, dense, no odor. Primarily silt and clay with ~5% gravel to 7 mm. The gravel is subangular. The fines are nonplastic, and do not react to HCl. There is a saturated orangish brown sand seam throughout the section.							
-	_									
155-	4255 —		Well Conded Cond (455, 400 f)			••••				
-	- -	SW	Well-Graded Sand (155 - 160.5) Saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 7 mm and 10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.	B/W-29@155-160						
160-	4250 —			B/W	•					
-		- SM	Silty Sand (160.5 - 165) Moist to saturated, dense, no odor. Primarily fine sand with ~ 40% silt and clay. The sand is subrounded to rounded. The fines are nonplastic, and do not react to HCI.							
165-	- 4245 —	SP	Poorly Graded Sand (165 - 169)							
-	-		Saturated, dense, no odor. Primarily medium to fine sand with ~10% silt and clay. The sand is subrounded to rounded. The fines are nonplastic, and do not react to HCI. There are silt laminations from 166-169 feet.							

Proj	ect Na	me:Yer	ington Second Step Hydrogeologic Framework Assessment				Projec	ct Number:132025
Soil :	Boring	:: M	fonitoring Well: X Piezometer: Boring/Wel	l Nu	nbe	r:B/	W-29D	Sheet <u>10</u> of <u>26</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
- 170 – -	4240	MLS	Sandy Silt (169 - 172.5) Moist to saturated, dense, no odor. Primarily silt and clay with ~30% fine grained sand. The sand is subrounded to rounded. The fines are nonplastic, and do not react to HCI.					
175 –	4235	SM SP	Silty Sand (172.5 - 173.5) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~30% coarse sand and ~20% silt and clay. The sand is subrounded to rounded. The fines are nonplastic, and do not react to HCI. Poorly Graded Sand (173.5 - 176.5) Saturated, loose, no odor. Primarily medium to fine sand with ~10% silt and clay The sand is subrounded to rounded. The fines are nonplastic, and do not react to HCI.	B/W-29@172-177				
	4230 —	- SM - MLS	Silty Sand (176.5 - 178.5) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 7mm and ~20% silt and clay. The gravel is subrounded and the sand is subrounded to rounded. The fines are nonplastic, and do not react to HCl. Sandy Silt (178.5 - 182) Moist, dense, no odor. Primarily silt and clay with ~30% fine grained sand. The sand is subrounded to rounded. The fines are nonplastic, and do not react to HCl.	-				
		SM	Silty Sand (182 - 184.5) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel and ~15% silt and clay. The sand and gravel are subrounded to rounded. The fines are nonplastic, and do not react to HCI.	_				
185-	_4225 — _	- SM SM	Silty Sand (184.5 - 185) Moist to saturated, medium dense, no odor. Primarily fine sand with ~40% silt and clay. The fines are nonplastic, and do not react to HCI. Silty Sand (185 - 188.5) Saturated, dense, no odor. Primarily coarse to fine					B/W-29I2 screened from 185 to 195 feet.

Proj	ect Na	ıme: <u>Yer</u>	rington Second Step Hydrogeologic Framework Assessment				Pr	oject Number: 132025
Soil	Boring	;: M	fonitoring Well: X Piezometer: Boring/Well	Nur	mbe	r: <u>B</u>	/W-29[Sheet <u>11</u> of <u>26</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
			sand with ~5% gravel to 7 mm and ~20% silt and clay. The gravel is subrounded and the sand is subrounded to rounded. The fines are nonplastic, and do not react to HCl.					
190-	4220 —	SM SW	Silty Sand (188.5 - 189.5) Moist to saturated, with medium density. no odor. Primarily medium to fine sand with ~ 5% gravel to 7 mm, ~15% coarse grain sand and ~ 30% silt and clay.The gravel is subangular to subround and the sand is subangular to subround to round. The fines are			0.00		
	-	-	nonplastic, and do not react to HCl. Well-Graded Sand with Gravel (189.5 - 191) Saturated, loose, no odor. Primarily medium to fine					
-	-	CL-ML	sand with ~15% gravel to 7 mm and ~15% silt and clay. The gravel is subangular to subounded and the sand is angular to subangular to subrounded. The fines are nonplastic, and do not react to HCl.	B/W-29@190-195				
-	_	SM	Silty Clay (191 - 193.5) Dry to moist, dense, no odor. Primarily silt and clay with no gravel and trace fine grained sand. The fines have low to medium plasticity and toughness, and do not react to HCl.	B/W-29@				
195-	4215 —	SM	Silty Sand (193.5 - 195) Saturated, dense, no odor. Primarily fine sand with no gravel and ~30% silt and clay. The fines are nonplastic, and do not react to HCI.		٠	0 000		
	- - -	SW	Well-Graded Sand with Gravel (195 - 207) Saturated, medium dense, no odor. Primarily medium to fine sand with ~15% gravel to 10 mm and ~20% silt and clay. The gravel is angular to subangular and the sand is angular to subangular to subrounded. The fines are nonplastic, and do not react to HCl.					
-	- - -	_						
200-	_4210							
-	- - - -	_						
205-		-						

Proj	ect Na	me: <u>Yer</u>	ington Second Step Hydrogeologic Framework Assessment		_		Pro	ject Number:132025
Soil	Boring	;:[] M	Ionitoring Well: X Piezometer: Boring/Wel	l Nur	nbe	r: <u>B</u>	W-29D	Sheet <u>12</u> of <u>26</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
-	-	-						
-		SC	Clayey Sand (207 - 208.5) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.					
210 - - -	_4200 — 	SW	Well-Graded Sand (208.5 - 213) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCI.					
-	-	SC	Clayey Sand (213 - 214) Moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~30% silt and clay. The gravel is angular to subangular and the sand					
215- -	_4195 	SM	is subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and have no reaction to a weak reaction to HCI. Silty Sand (214 - 217.5) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~35% silty clay. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, and do not react to HCI.					
-	-	SM	Silty Sand (217.5 - 220) Moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~15% silt and clay. The gravel is subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.					
220-	4190	CL	Clayey Sand (220 - 222.5) Moist, very dense, no odor. Primarily medium to fine sand with ~5% coarse grain sand to 2mm and ~40% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCI.	(220-225				
-	-	SW-SM	Well-Graded Sand (222.5 - 225) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% coarse grain sand to 5mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.	B/W-29@220-225				

	ect Na		Ingloir Second Step Hydrogeologic Framework Assessment		_	Ь		oject Number: 132025
Soil l	Boring	:: M	fonitoring Well: X Piezometer: Boring/We	ll Nur	nbe	r: <u> </u>	/W-29D	Sheet <u>13</u> of <u>26</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
005	4185 —				•			
225 — - - -	-	SM	Silty Sand (225 - 230) Moist, very dense, no odor. Primarily medium to fine sand with ~5% coarse grain sand to 0.5 mm and ~45% silt and clay. The sand is subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCI.					
- 230 <i>-</i> -	4180 —							
-	-	SW	Well-Graded Sand (230 - 232.5) Moist to saturated, dense, no odor. Primarily medium to fine sand with a maximum grain size of 2 mm and ~15% silt and clay The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCl.					
-	4175 —	SM	Silty Sand (232.5 - 235) Moist, very dense, no odor. Primarily medium to fine sand with a maximum grain size of 3 mm and ~25% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
- - - -	-	SC	Clayey Sand (235 - 240) Moist, very dense, no odor. Primarily medium to fine sand with no gravel and ~40% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
240 — - -	4170 —	SM	Silty Sand (240 - 246) Moist, very dense, no odor. Primarily medium to fine sand with a maximum grain size of 2 mm and ~35% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCl.					

	ect Na		Ingion Second Step Hydrogeologic Framework Assessment Ionitoring Well: X Piezometer: Boring/We	II NI		F	P 3/W-29	Project Number:
Soil	Boring	;:[M	Ionitoring Well: X Piezometer: Boring/We	II Nui	nbe	r: <u></u>	5/ VV-23	Sheet 14 of 20
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
245-	4165							
		SP-SM	Poorly Graded Sand with Silt (246 - 248.5) Saturated, dense, no odor. Primarily medium to fine sand with a maximum grain size of 1 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
250-	_4160 —	SM	Silty Sand (248.5 - 251) Moist, very dense, no odor. Primarily medium to fine sand with ~5% coarse grain sand to 3mm and ~35% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCl. Section has silty lenses present.		•			
	-	SP-SM	Poorly Graded Sand with Silt (251 - 253.5) Saturated, dense, no odor. Primarily medium to fine sand with with a maximum grain size of 1 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCI.	B/W-29@250-255				
255 –	4155 —	- SM	Silty Sand (253.5 - 261) Moist, very dense, no odor. Primarily medium to fine sand with a maximum grain size of 1 mm and ~30% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
-	-							
260-	_4150				•	000		
-	-	SW	Well-Graded Sand (261 - 267.5) Saturated, dense, no odor. Primarily medium to fine sand with ~15% coarse grain sand to 4mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCI.					

Proj	ect Na	me: _Yer	ngton Second Step Hydrogeologic Framework Assessment		_		Pro	ject Number: <u>132025</u>
Soil	Boring	:: M	onitoring Well: X Piezometer: Boring/W	ell Nu	nbe	r:B	W-29D	Sheet <u>15</u> of <u>26</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
265-	4145			B/W-29@260-265				
270 -	4140	sc sc	Clayey Sand (267.5 - 271.5) Moist, very dense, no odor. Primarily medium to fine sand with a maximum grain size of 0.5 mm and ~35% silt and clay. The sand is subangular. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.					
275 -	4135 —	SM	Silty Sand (271.5 - 279) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~20% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic, and do not react to HCl. At 273.5 feet there is a fine sand lense.					
280-	4130	SM	Silty Sand (279 - 282) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.					

Proje	ect Na	me: Yeri	ington Second Step H	Hydrogeologic Framework	Assessment		_		Pr	oject Number:132025			
Soil I	Boring	: M	onitoring Well: X	Piezometer:	Boring/Well	Nur	nbe	r: <u> </u>	/W-29[<u>) </u>	Sheet .	<u>16</u>	of <u>26</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	M	laterial Description		Sample Name	Sample Location	Lithology	Well Construction	Remarks			
- - 285—	- - 4125 —	SC	to fine sand with and clay. The sa	82 - 285.5) ery dense, no odor. Prima ~10% gravel to 20 mm ar and and gravel are angular fines are nonplastic, and	nd ~25% silt r to								
-	-	SC	~45% silt and cla subrounded. The	85.5 - 287) se, no odor. Primarily fine ay. The sand is subangula e fines have low to mediul and do not react to HCl.	ar to		•						
-	-	SW	Well-Graded Sa Moist to saturat to fine sand with and clay. The gr sand is subangul	and (287 - 292.5) ed, dense, no odor. Prima ~10% gravel to 15 mm ar avel is angular to subangular to subrounded. The fir lo not react to HCl.	nd ~15% silt ular and the	B/W-29@286-291							
290 — -	4120 —					B/N							
-	-	SP-SM	Moist, very den sand with ~5% g The sand and gra	Sand with Silt (292.5 - 3) se, no odor. Primarily me ravel to 5 mm and ~20% savel are subangular to subanglastic, and do not react ears 300 feet.	dium to fine silt and clay. prounded.								
-	4115 —												
300 —									KI KI				

Proj	ect Na	me: Yer	ington Second Step Hydi	ogeologic Framework A	Assessment		_		Pı	roject Number: _	132025			
Soil	Boring	;:[] M	Conitoring Well: X	Piezometer:	Boring/Well	Nun	nbe	r: <u>B</u>	/W-29	D		Sheet _	<u>17</u> o	f <u>26</u>
		<u> </u>												
Depth (ft)	Elevation (ft)	USCS Group Symbol	Mate	erial Description		Sample Name	Sample Location	Lithology	Well Construction	ı	Remarks			
305-	4105 —	SM	to fine sand with ~10 and clay. The sand subrounded. The fir and toughness, and Silty Sand (306 - 3' Moist to saturated, medium to fine sand ~25% silt and clay.	lense, no odor. Primari 19% gravel to 10 mm and and gravel are subangu 1es are nonplastic to low do not react to HCl. 10) very dense, no odor. F with ~10% gravel to 19 The sand and gravel ar unded. The fines are n	d ~25% silt ular to w plasticity Primarily 5 mm and e	B/W-29@307-312	• • • •							
310-		SW	sand with ~5% grave The sand and grave	(310 - 311.5) no odor. Primarily med el to 10 mm and ~10% are subangular to subr stic, and do not react to	silt and clay. rounded.	B/W								
	-	- SM	sand with ~10% grand clay. The sand and	313) no odor. Primarily med vel to 20 mm and ~25% gravel are subangular t les are nonplastic, and	6 silt and o		<u> </u>							
	- - - - - - - -	SC	Clayey Sand (313 - Dry to moist, very of to fine sand with ~10 and clay. The sand	lense, no odor. Primari)% gravel to 20 mm and and gravel are subangules are nonplastic to love	d ~30% silt ular to									

Proj	ect Na	ame: _Yeri	ington Second Step Hydrogeologic Framework Assessment		_		P	roject Number: 132025		
Soil	Boring	;:[] M	fonitoring Well: X Piezometer: Boring/Well	Nur	nbe	r: <u>B</u>	/W-29)D	Sheet	<u>18</u> of <u>26</u>
		T =		_						
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks	;	
320-	4090 —									
-	- - 	SM	Silty Sand (320 - 323) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.	-372	•					
325-	4085 —	SW-SM	Well-Graded Sand with Silt (323 - 325.5) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~5% gravel to 25 mm and ~15% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic, and do not react to HCI.	B/W-29@321-372						
-		SM	Silty Sand (325.5 - 328) Dry to moist, very dense, no odor. Primarily medium to fine sand with a maximum grain size of 0.5 mm and ~35% silt and clay. The sand is subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.							
330-	4080	SM	Silty Sand (328 - 331) Moist to saturated, dense, no odor. Primarily medium to fine sand with ~10% gravel to 50 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.							
-	_	SC	Clayey Sand (331 - 332) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 20 mm and ~25% silt							
335 –	4075 —	SM	and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCl. Silty Sand (332 - 334) Moist, dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl. (334 - 340) No Recovery							
-		_								

Proj	ect Na	me: _Yer	ngton Second Step Hydrogeologic Framework Assessment		_		Pro	oject Number:132025
Soil 1	Boring	:: M	onitoring Well: X Piezometer: Boring/Wel	l Nur	nbe	r: <u>B</u> /	W-29E	Sheet <u>19</u> of <u>26</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
340-	4070 —							
-	-	SC	Clayey Sand with Gravel (340 - 346) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 50 mm and ~30% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCl.					
345 – -	4065 —							
-	-	SW-SC	Well-Graded Sand with Clay (346 - 350) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 25 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.					
		SC	Clayey Sand (350 - 358) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 50 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCl.			• • •		
355 - -	4055 —							

	ect Na Boring		fonitoring Well: X Piezometer: Boring/Wel	l Nu	mbe	r: <u>B</u>	Projec /W-29D	Sheet 20 of 26
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
360-	4050	SM	Silty Sand (358 - 365.5) Moist, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 5 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.				★	B/W-29D screened from 360 to 380 feet.
365-	4045	SP	Poorly Graded Sand (365.5 - 366.5) Moist to saturated, dense, no odor. Primarily medium to fine sand with no gravel and ~20% silt and clay. The sand is subangular to subrounded. The fines are					
370-		SP	nonplastic, and do not react to HCI. Silty Sand with Gravel (366.5 - 368) Dry, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 70 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Starting to see some weathered granites, probably from alluvial activity. Poorly Graded Sand (368 - 371) Moist to saturated, dense, no odor. Primarily medium to fine sand with no gravel and ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, and do not react to HCI.	B/W-29@367-372				
		SC	Clayey Sand with Gravel (371 - 376) Dry, very dense, no odor. Primarily medium to fine sand with ~20% gravel to 100 mm and ~35% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCl.		•			
375-	_4035 —	SC	Clayey Sand (376 - 383.5) Dry to moist, very dense, no odor. Primarily medium	_				

Proj	ect Na		Inglon Second Step Hydrogeologic Framework Assessment		_			oject Number:
Soil 1	Boring	g: M	fonitoring Well: X Piezometer: Boring/Wel	l Nur	nbe	r: <u>B</u>	W-29D	Sheet <u>21</u> of <u>26</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
380 -	4030		to fine sand with ~10% gravel to 50 mm and ~30% silt and clay. The gravel is angular to subangular and the sand is angular to subangular to subrounded. The fines are nonplastic, have a reddish brown color, and do not react to HCl. The zone becomes dry at 381 feet.					
- 385 - - -	4025 —	sc	Clayey Sand (383.5 - 385) Moist, dense, no odor. Primarily medium to fine sand with ~5% gravel and ~30% silt and clay. The sand and gravel are subangular. The fines are nonplastic, and do not react to HCl. Clayey Sand with Gravel (385 - 392) Dry, very dense, no odor. Primarily coarse to fine sand with ~15% gravel to 10 mm and ~30% silt and clay. The gravel is angular to subangular and the sand is angular to subangular and the sand is angular to subangular to subrounded. The fines are nonplastic, have an orange brown color, and do not react to HCl.					
390 – - -	4020 —	CL	Lean Clay with Sand and Gravel (392 - 397.5)					
395 –	4015 —		Dry to moist, very dense, no odor. Primarily silt and clay with ~20% gravel to 10 mm and ~20% coarse to fine grain sand. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic, and do not react to HCI.					

Proj	ect Na	ime:Tel	ington Second Step Hydrogeologic Framework Assessment				Pr	oject Number: 132023
Soil	Boring	;: M	fonitoring Well: X Piezometer: Boring/Wel	l Nur	nbe	r: <u>B</u>	/W-29[Sheet <u>22</u> of <u>26</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
-	-							
- 400 – -	4010 —	SC	Clayey Sand with Gravel (397.5 - 402) Moist, very dense, no odor. Primarily silt and clay with ~20% medium to fine sand and ~25% gravel to 10 mm. The gravel is angular to subangular and the sand is subangular to subrounded. The fines are nonplastic, and do not react to HCl.					
		SC	Clayey Sand with Gravel (402 - 410) Dry, very dense, no odor. Primarily medium to fine sand with ~20% gravel to 50 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI. Zone has large clasts from alluvial fan.	_				
405 - - -	4005							
410-	4000 —		Clayey Sand with Gravel (410 - 412.5)					
-	- - -	SC	Moist, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.					
-	-	SC	Clayey Sand (412.5 - 415) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					

Proj	ect Na	me: _Yeri	ington Second Step Hydrogeologic Framewo	ork Assessment		_		Pr	oject Number:132025			-	
Soil Boring: Monitoring Well: X Piezometer: Boring/Well Nur								W-29[<u>)</u>	Sheet	23	of _	<u> 26</u>
			-	_									
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	n	Sample Name	Sample Location	Lithology	Well Construction	Remarks				
415-	3995 —		Clayey Sand with Gravel (415 - 418)										
-	-	SC	Dry, very dense, no odor. Primarily m sand with ~25% gravel to 50 mm and ~ clay. The gravel is angular to subangular is subangular to subrounded. The fines and do not react to HCl.	·25% silt and ar and the sand									
-	-	SC	Clayey Sand (418 - 424) Dry, very dense, no odor. Primarily m sand with ~10% gravel to 20 mm and ~ clay. The sand and gravel are subangu subrounded. The fines are nonplastic, a	·30% silt and ılar to									
420-	3990 —	-	to HCI.										
- - -	-												
425-	3985	CL	Sandy Lean Clay (424 - 425) Dry, very dense, no odor. Primarily m sand with ~5% gravel to 10 mm and ~4	0% silt and clay.									
-	-	SC	The sand and gravel are subangular to the fines are nonplastic, and do not react Clayey Sand (425 - 428) Dry, very dense, no odor. Primarily m sand with ~10% gravel to 70 mm and ~ clay. The gravel is angular to subangula nonplastic, and do not react to HCI.	edium to fine 30% silt and									
-		CL	Sandy Lean Clay (428 - 429) Dry, very dense, no odor. Primarily m sand with ~10% gravel to 70 mm and ~	edium to fine 30% silt and									
-			clay. The sand and gravel are subangu subrounded. The fines are nonplastic, a	ılar to /			/////						
430 - - -	3980		\to HCI. (429 - 440) No Recovery										
-	-						$/\setminus$						

Proj	ect Na	ıme:rei	ington Second Step Hydrogeologic Framework Assessment			oject Number:				
Soil	Boring	g: M	Ionitoring Well: X Piezometer: Boring/Well	Number: <u>B/W-29D</u> Sheet <u>24</u> of <u>2</u>						
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks		
435-	_3975									
440-	3970	GC	Clayey Gravel (440 - 450) Dry, very dense, no odor. Primarily gravel to 70mm with ~25% medium to fine grain sand and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.							
445-										
450-	3960	sc sc	Clayey Sand with Gravel (450 - 451) Dry, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~30% silt and clay. The gravel is subangular to subround and the sand is angular to subangular. The fines are nonplastic, and do not react to HCI. Clayey Sand with Gravel (451 - 453) Dry, very dense, no odor. Primarily medium to fine sand with ~25% gravel to 40 mm and ~30% silt and							

Proj	ject Na	ıme: <u>Ye</u> ı	rington Second Step Hydrogeologic Framework Assessment		_		Project	Number:
Soil	Boring	g: N	Monitoring Well: X Piezometer: Boring/We	ll Nu	mbe	r: <u>B</u>	/W-29D	Sheet <u>25</u> of <u>26</u>
Depth (ff)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
		CL	clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.					
455-	3955 —	SC	Sandy Lean Clay (453 - 454) Dry, very dense, no odor. Primarily silt and clay with ~40% medium to fine sand and ~5% gravel to 15 mm. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.					
		_	Clayey Sand (454 - 457) Dry, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 30 mm and ~35% silt and clay. The gravel is subangular to subrounded. The fines are nonplastic, and do not react to HCl.					
,			(457 - 461) No Recovery					
460-	3950 <i>-</i>	-						
	-	CL	Sandy Lean Clay (461 - 466) Dry, very dense, no odor. Primarily silt and clay with ~35% medium to fine sand and ~5% gravel to 20 mm. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCl. 461.5 - 462 feet is					
	- ·		a large chunk of what looks like highly weathered granite w/ high feldspar.					
465-	3945 —							
	- - - -		(466 - 470) No Recovery					
470-		-						
		SC	Clayey Sand (470 - 476) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 15mm and ~35% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCI. Starting to see					

			ington Second Step Hydrogeologic Framework Assessment		_			oject Number: 132023
Soil l	Boring	.: M	fonitoring Well: X Piezometer: Boring/Well	l Nur	nbe	r:B	/W-29E	Sheet <u>26</u> of <u>26</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
- - 475 –	3935 —	-	larger rocks in core with large gravel size.					
-		SC	Clayey Sand (476 - 480) Dry, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~35% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.					
480 -	-	GC SC	Clayey Gravel with Sand (480 - 481) Dry, very dense, no odor. Primarily gravel to 50 mm with ~35% medium to fine grain sand and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
-	-	SC	Clayey Sand (481 - 483) Dry, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 15mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl. Clayey Sand (483 - 490) Dry, very dense, no odor. Primarily medium to fine	-				
- 485	3925 —		sand with ~10% gravel to 20 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCl.					
+3∪ =			Bottom of Borehole at 490 feet below ground surface.					

STATE OF NEVADA

DIVISION OF WATER RESOURCES

WELL DRILLERS REPORT

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I OWNER	Anaconda	Miners	ıle			ADDDDDD AT HERY YORK	NOTICE OF IN	NTENT NO. 10-11-83				
MAILING ADDR	ESS 555	17+1	Stre	et	*************	ADDRESS AT WELL LOCA Yearing	ron Nevada	······································				
	Denver Co	lorado	802	02	***************************************		com, nevace	A				
2. LOCATION	.SW	SE!	Sec.	32 т	14	N/X R 25 E	Lvon	Country				
PERMIT NO	***********************		1			l		County				
	Issued by Water Re	sources		Parcel No	o.	Sub	division Name	***************************************				
3.	TYPE OF WO	RK MON	IITOR	4.		PROPOSED USE		5. TYPE WELL				
New Well	□ Re	condition		Do	mestic [☐ Irrigation ☐	Test 🖾	Cable □ Rotary 🛱				
Deepen	□ Ot	her	X	Mu	inicipal [Stock 🗆	Other 🗆				
6.	LITHO	OGIC L	.OG				CONSTRUCTIO					
Mater	rial	Water Strata	From	То	Thick- ness	Diameter hole 10 inc	hes Total dept	h155 feet				
Clay - silt	У		0	2	2	Weight per foot	7 	Thickness 1/4"				
Sand - fine			2	1 7	5	Diameter	From	To				
Clay - silt	У		7	10	3	10 inches						
Sand - fine		1	10	15	5	inches						
Sand - well	graded		15	18	3	inches						
Clay - silt			18	22	4	inches		i i				
Sand - fine			22	27	5	inches						
Sand & clay			27	31	4	inches						
Sand - fine			31	34	3	Surface seal: Yes 🛭 N						
Clay - silt	У		34	47	13	Depth of seal 98		feet				
Sand & clay			47	57	10	Gravel packed: Yes 🛛						
Sand - grave	elly		57	63	6	Gravel packed from98	3feet to	151feet				
Clay - silty	у		63	64	1	gravel & bentonite						
Sand & clay			64	73	9	Perforations:						
Clay - silty	У		73	75	2	Type perforationSCI	eened	***************************************				
Sand - well	graded		75	80	5	Size perforation						
Clay - silty	У		80	83	3	From Blank 0	feet to	108 feet				
Sand - fine			83	88	5	From screened 108	feet to	151 feet				
Sand & clay			88	94	6	From Blank 151	feet to	155feet				
Clay - silty	•		94	98	4	From	feet to	feet				
Sand - fine			98	101	3	From	feet to	feet				
Clay - silty			101	103	2							
Sand - fine			103	110	7	4	TER LEVEL					
Clay - silty			110	113	3	Static water level2.8						
Sand & clay Clay - silty			113	117	4	Flow						
Sand - fine	Υ		117 120	120	3	Water temperature°	F. Quality					
	inued on pa	age 2	**	1 170	16	10. DRILLERS	CERTIFICATI	ION				
Date started					10.83	This well was drilled under r						
Date completed	10-	25	*************	***************************************	, 19.83.	the best of my knowledge.		-				
7.	WELL T	EST DA	TA			Name Lang Explorato	Contractor	Pump Inc.)				
Pump RPM	G.P.M.	Draw	Down	After Hou	rs Pump	Address 185 W. 3300 S	Contractor	itan 84115				
						Nevada contractor's license n	umber <u>01</u> 6	675				
						Nevada contractor's drillers number 020710						
						Nevada driller's license numbe	er1366					
	BAILE	R TEST				$\mathcal{N}//\mathcal{L}$	2/ ^	ctual Driller				
G.P.M	D	raw down	l .	feet	hours	Signed ALAN LANG	Contractor					
G.P.M. Draw down feet hours						purs Date 4-30-84						
G.P.M						Date						

*WHITE—DIVISION OF WATER RESOURCES CANARY—CLIENT'S COPY PINK—WELL DRILLER'S COPY

STATE OF NEVADA

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WELL DRILLERS REPORT Please complete this form in its entirety

		J ONE		•			NOTICE OF INTENT NO
1. 0	WNER	***************************************	***************************************		****************		ADDRESS AT WELL LOCATION
		RESS					
							N/S RE
PERM	IIT NO			······			County
	·····	Issued by Water Re	sources		Parcel No.		Subdivision Name
3.		TYPE OF WO	RK		4.		PROPOSED USE 5. TYPE WELL
	New Well		condition			nestic 🗀	Test E Cuote E Rotary E
	Deepen	☐ Ot	her		Mur	nicipal 🗆	Industrial Stock Other
6.		LITHOI	LOGIC LO	G			8. WELL CONSTRUCTION
	Mate	rial	Water Strata	From	То	Thick- ness	Diameter holeinches Total depthfeet Casing record
Clay	y - silt	У		136	138	2	Weight per footThickness
	d & clay			138	153	15	Diameter From To
Clay	y - silt	у		<u> 153</u>	155	2	inchesfeet feet
						ļ	inchesfeetfeet
	*				ļ		feetfeet
	**************************************	······································	 -		<u> </u>		inchesfeetfeet
			-				inchesfeetfeet
							Surface seal: Yes \(\simega \) No \(\simega \) Type
							Surface seal: Yes \(\sum \) No \(\sum \) Type
		***************************************					Gravel packed: Yes \(\Bar{\cup} \) No \(\Bar{\cup} \)
							Gravel packed from feet feet feet
		70000000000000000000000000000000000000					
	***************************************	· · · · · · · · · · · · · · · · · · ·					Perforations:
	·····						Type perforation
				······································			Size perforation
		***************************************					From feet to feet
***************************************							From feet to feet
	····						From feet to feet From feet to feet
							From feet to feet
					-		9. WATER LEVEL
***************************************							Static water levelfeet below land surface
***************************************							Flow
							water temperature F. Quanty
				***************************************		,	10. DRILLERS CERTIFICATION
Date sta	arted		**************	************		., 19	This well was drilled under my supervision and the report is true to
Date co	mpleted		***********		***************************************	., 19	the best of my knowledge.
							Name
7.		WELL T	EST DATA	A			
Put	mp RPM	G.P.M.	Draw Do	own	After Hour	s Pumn	Address
							Nevada contractor's license number
							Nevada contractor's drillers number
							Nevada driller's license number
		BAILE	ER TEST				
G.P.M.	•	D	raw down	fe	eet	hours	Signed
		D	raw down	fe	et	hours	Date
G.P.M.	• •••••••••	D					Dutt

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STATE OF NEVADA DIVISION OF WATER RESOURCES

5DB page 1 OFFICE USE ONL Log No. 2533 9 Permit No. 251 Basin M. S. D. V. 9

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WELL DRILLERS REPORT Please complete this form in its entirety

). OWNER Ar						NOTICE OF INTENT NO.10-11-83
MAILING ADDRE	es 555 1°	7th St	reet	***************************************		ADDRESS AT WELL LOCATIONYearington, Nevada
	Denver, Co	lorado	8020)2		NATA OF F. L.
2. LOCATION N	W ⊿ SI	S 1/2	Sec 5	т	13N	N/X R. 25 E Lyon County
PERMIT NO.			1	· · · · · · · · · · · · · · · · · · ·	************	1 County
	ssued by Water Res	ources		Parcel No.		Subdivision Name
3. Т	YPE OF WOR	K MON	ITOR	4.		PROPOSED USE 5. TYPE WELL
New Well	☐ Rec	ondition		Don	nestic [☐ Irrigation ☐ Test 🖄 Cable ☐ Rotary 🖄
Deepen	☐ Oth	ег	X	Mun	nicipal [
6.	LITHOL	OGIC I	\C			8. WELL CONSTRUCTION
·	LITTIOL		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Diameter hole 10 inches Total depth 266 feet
Materia	al	Water Strata	From	То	Thick- ness	Casing record 14 ft. of 10"
Man made - m	nine waste		0	14	14	Weight per footThickness 1/4"
Clay - silty		4 P	14	23	9	Diameter From To
Sand & grave	1		23	30	7	10 inches 0 feet 14 feet
Clay - silty	•		30	33	3	inchesfeetfeet
Sand & grave	1	-	33	35	2	inchesfeetfeet
Clay - silty			35	37	2	inchesfeetfeet
Sand & grave	1		37	40	3	inches feet feet
Clay - silty			40	41	1	inches feet feet
Sand & grave			41	46	5	Surface seal: Yes 🖔 No 🗆 Type <u>Cement</u>
Sand & grave			46	52	6	Depth of sealfeet
Clay - silty			52	63	11	Gravel packed: Yes □ No 🖾
Sand - well			63	68	5	Gravel packed from feet to feet
Clay - silty			68	70	2	caved zone from 108' to 266'
Sand & grave			70	73	3	Perforations:
Clay - silty			73	84	11	Type perforationScreened
Sand & clay			84	91	7_	Size perforation
<u>Clay - silty</u>			91	95	4	From Blank 0 feet to 123 feet
Sand - well			95	103	8	From screened 123 feet to 153 feet
Sand - fine			103	1111	8	From Blank 153 feet to 266 feet
Clay - silty	,		111	115	4	Fromfeet tofeet
Sand & clay		· · ·	115	122	7	From feet to feet
Clay - silty			122	125	3	9. WATER LEVEL
Sand - fine	3 - 3		125	131	6	1 22.22
Sand - well	graded		131	136	5	Static water level 13.0 feet below land surface
Sand - fine			136	150	14	FlowP.S.I.
Clay - silty			150	153	3	Water temperature° F. Quality
Sand - fine	od on no	7 ++	153	159	6	= 10. DRILLERS CERTIFICATION
	ed on page 10-18				00	
Date started				***************************************	, 19 <u>03</u>	Il she had of my burneled.
Date completed	10-20				, 1983	Name Lang Exploratory Drilling (Alan Lang We
7.	Weii	ECT DAT	т л		······································	Contractor Pump Inc.)
,	WELL T	EST DA	1 A			Address 185 W. 3300 So. SLC, Utah 84115
Pump RPM	G.P.M.	Draw	Down	After Hour	rs Pump	Contractor
						Nevada contractor's license number 016675
				· · · · · · · · · · · · · · · · · · ·	***************************************	Nevada contractor's drillers number 020710

<u> </u>						Nevada driller's liceney number1366
	DATE I	D TECT				Actual Driller
		ER TEST				Signed Alarthan
G.P.M				feet		"
G.P.M				feet		1) Date
G.P.M	D	raw down	1	feet	hours	

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STATE OF NEVADA DIVISION OF WATER RESOURCES

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WELL DRILLERS REPORT

PRINT OR TYPE		nti i Navanjan gatara kao Islam Islam				form in its entirety			
			- 17-3			Marketine and the second	NOTICE OF	INTENT NO.	************
A. OWNER	ing. Bedan de Berger Stepten (1984) i 1984 i					ADDRESS AT WELL LO			
MAILING ADDRI	ESS				- 1				***************************************
2. LOCATION	Service Notes in the					N/S RE			
PERMIT NO		14.14.1 I			1				
	issued by Water Resour	rces	P	arcel No.			Subdivision Name		
and the control of th	TYPE OF WORK			4.		PROPOSED USE		5. TYPE V	VELL
New Well		ndition 🗆		Dom			Test 🗆	Cable	Rotary 🗆
Deepen	☐ Other			Muni	icipal [Industrial 🗆	Stock 🗆	Other 🗆	
6.	LITHOLOG	GIC LOG				pi .	LL CONSTRUCTI		
Materi		Water Strata Fro	m	То	Thick- ness	Diameter hole			
Sand & grave			59	161	2	Casing record			
Clay - silty			61	170	9	Diameter	From	TT III CKIIC 33	
Sand & Grave	el.	1	70	176	6	inches	fec	et	
Sand & Clay		1	76	183	7	inches	fee	et	feet
Sand - fine			83	187	4	-{	fee		
Sand & clay			87	203	16		fee	et	feet
Clay - silty			03	207	4	41	fee		
Sand & Grave			07	211 219	4	- R	fe		
Clay - silty Sand - fine	<u>/ </u>		11 19	223	8 4	Surface seal: Yes Depth of seal	' 17 7	***************************************	
Sand & grave	,		23	229	6	Gravel packed: Yes	'/		1eet
Clay - silty			2 9	231	2	Gravel packed from	11/1//	to	feet
Sand - fine			31	243	12)	
Sand & grave	21	2	43	248	5	Perforations:		/	
Clay - silty		2	48	253	5	Type perforation	/_V	***************************************	***************************************
Sand & Grave	21	2	53	266	13	Size perforation			
						From	feet to		
1964 (N. 1964)						From		***********	
1			_			From From	feet to		
And the second s						From V	feet to	*******************************	
			$\neg \dagger$			1101117	1661 10	***************************************	1661
						9. /	WATER LEVEL		
-						Static water level	***************************************	feet below l	and surface
						Flow			
						Water temperature	° F. Quality	***************************************	***************************************
						10. DRILL	ERS CERTIFICA	TION	
Date started					10	This well was drilled un	der my supervision	and the reno	rt is true to
Date started Date completed						the best of my knowled	ge.		it is true to
		*******************************			., 17	Name		•••••	
7.	WELL TES	ST DATA					Contractor		
		T				Address	Contractor		******************
Pump RPM	G.P.M.	Draw Down	A	fter Hours	s Pump	Nicuada cantucatani'a lian	20		
			1			Nevada contractor's licer	ise number		
						Nevada contractor's drill	ers number	*******************	
<u> </u>		L	<u></u>	***************************************		Nevada driller's license n	umber	Actual Dam	
	BAILER	TEST		_				Actual Driller	
G.P.M		w down	fee	t	hours	Signed	Contractor		
G.P.M		w down				Date			
G.P.M	Dra	w down	fee	t	hours	Date	***************************************	*******************************	***************************************

WSDB

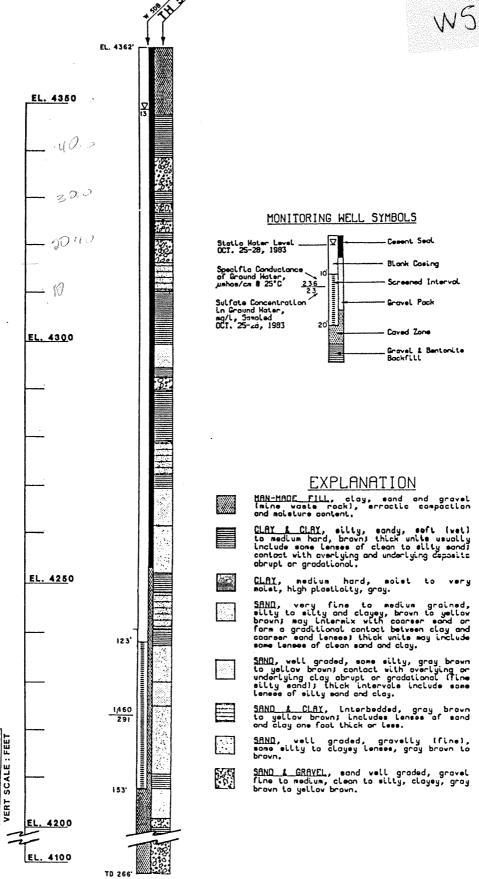
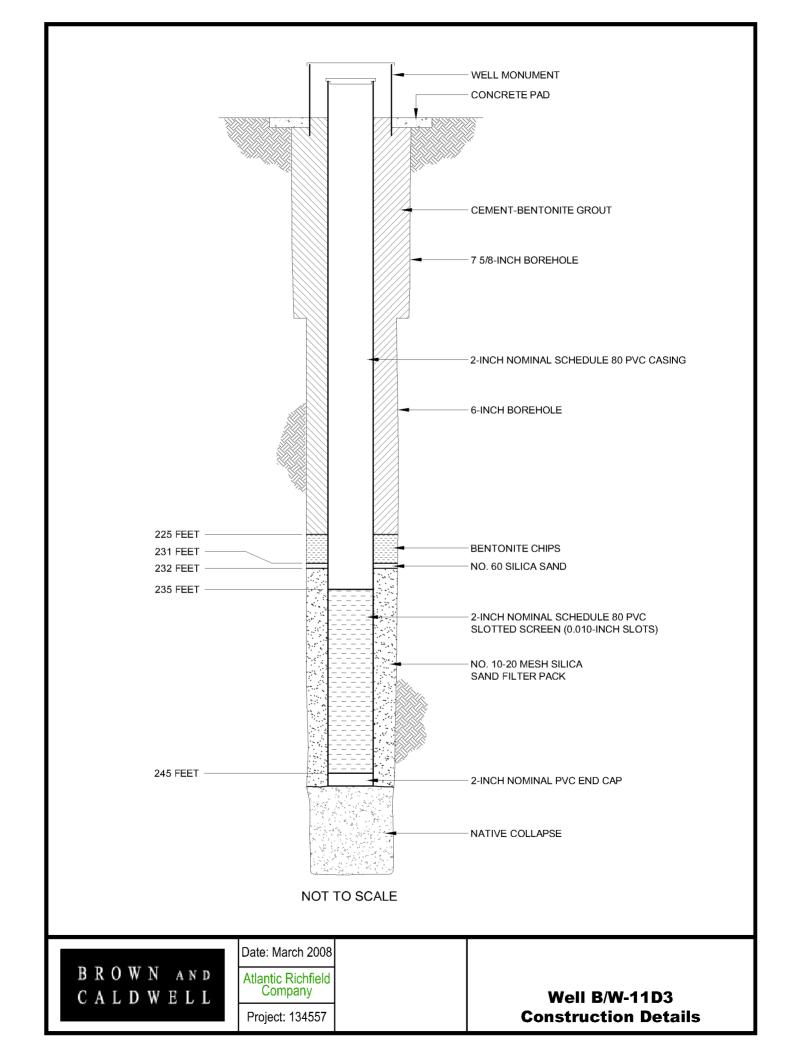
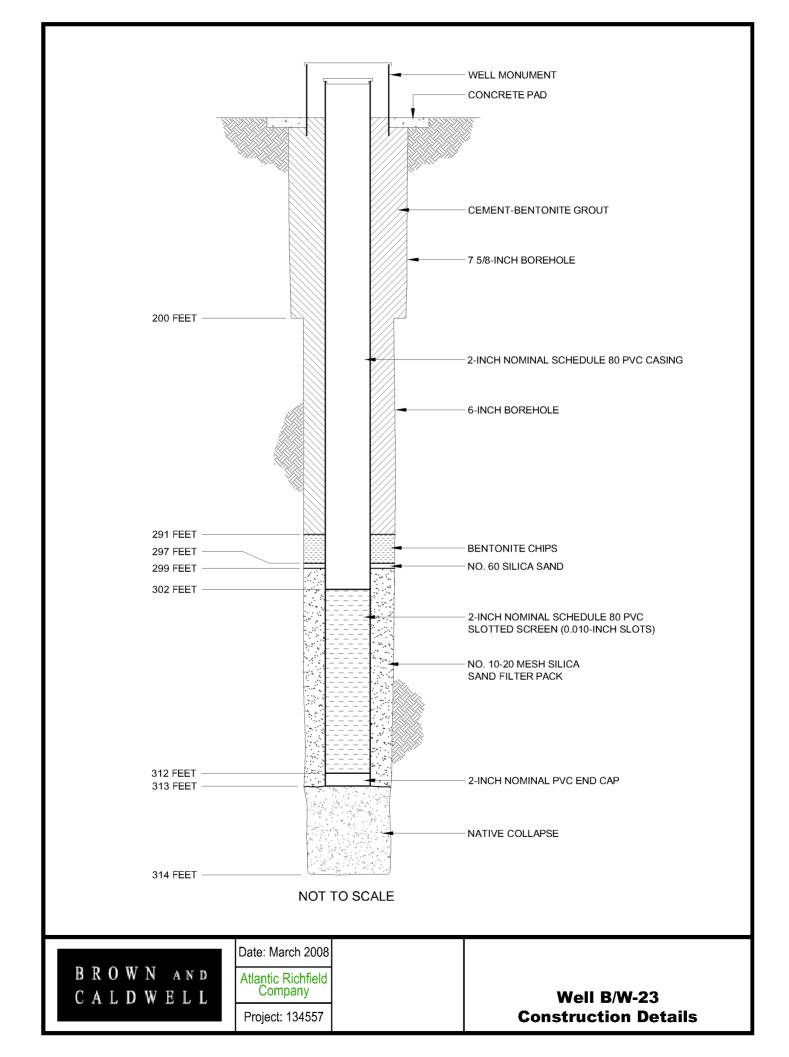


Figure 18 Well Completion Details and Lithologic Log for W5DB Well Site





Brown and Caldwell BORING LOG

Proje	ect Na	me: _Yer	ington Second Step Hydrogeolog	ic Framework Assessment				1	Pro	ject Number:	132025
Soil E	Boring:	M	Ionitoring Well: X Piezomet	er: Boring/Well	Νυ	mbe	r: _B	3/W-2	23		Sheet <u>1</u> of <u>17</u>
Borin	ıg Loc	ation: Dire	ectly North of Weed Heights.				thing				Easting:
Drilli	ng Co	ntractor:	Boart Longyear	Driller: R. Salois		Gro	ound S	Surfa	ce	ation: feet ar Elevation: fe	eet amsl
Drilli	ng Eq	uipment: (GP24-300RS	Borehole Diameter:6-inches	,	Dat	e Star	ted:	7/2	5/07	Date Finished: 8/8/07
Drilli	ng Me	ethod: Son	ic	Drilling Fluid: Water		Cor Dep	nplete	d 3	14	fbgs	Water Depth: fbmp
Samp	oling N	1ethod: (Core Barrel						****		STRUCTION
Well	Seal:	Bentonite	and Cement			Typ of V	e and Vell C	Diar asing	net 2:	er 2-inch Sch	nedule 80 PVC
Logg	ed By:	P. Spille	rs, R. Banda, and C. Strauss							nch Filter Ma	aterial: #10-20 Silica Sand
										'	
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material D	escription	Sample Name	Sample Location	Lithology	Well	Construction		Remarks
5-		SM GP-GM	Silty Sand with Gravel (0 - Dry, medium dense, no odd fine sand with ~15% gravel t and clay. The sand and grave subangular. The fines have toughness, and have a weak toughness, and have a meak a safe to the same toughness. The sand and gravel at the fines have no plasticity a have a weak to strong reaction.	or. Primarily medium to o 90 mm with ~15% silt rel are angular to low plasticity and to strong reaction to HCI. Silt and Sand (8 - 15) rily gravel to 60 mm with d sand and 5-10% silt and re angular to subangular. and low toughness, and						Method D-248 grain-size det based on the System. Horizontal Sur Nevada State zone, in feet. Sharp contact gradational contact gradational contact gradational contact gradational contact gradational contact and the state of t	ntonite Grout: 0 - 291 feet ips: 291 - 297 feet Sand: 297 - 299 feet Sand Filter Pack: 299 - 313 feet al Schedule 80 PVC 0.010 in: 302 - 312 feet se: 313 - 314 feet intonite Fill: NA feet

	Boring:		onitoring Well: X Piezometer: Boring/Well	Nur	— nho	r . B		Sheet _2_ of _17_
3011 1	ouing.	1V1	onitioning well. [23] Trezonicier Bornig/well	Nui	iibe	r. <u></u>	20	Sheet 01
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
-		SM GP-GM	Silty Sand (15 - 16) Dry, medium dense, no odor. Primarily medium to fine sand with ~10% gravel to 30 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and					
-			toughness, and have a weak reaction to HCI. Poorly Graded Gravel with Silt and Sand (16 - 18) Dry, dense, no odor. Primarily gravel to 40 mm with ~30% medium to fine grained sand and ~10% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react					
20-		SC	to HCI. Clayey Sand with Gravel (18 - 29) Dry, dense, no odor. Primarily medium to fine sand with ~15% gravel to 40 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and have no reaction to a weak reaction to HCI.					
-								
25 -								
-			Cilly Cond (20 20)					
30-		SM	Silty Sand (29 - 38) Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI.					

Proj	ect Na	me: <u>Yer</u>	ington Second Step Hydrogeologic Framework Assessment		_		Pr	oject Number: 132025
Soil 1	Boring	:: M	Ionitoring Well: X Piezometer: Boring/We	ll Nui	nbe	r: <u>B</u>	/W-23	Sheet <u>3</u> of <u>17</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
35-								
40-		SC	Clayey Sand (38 - 41) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines have low to medium plasticity with low toughness, and have a strong reaction to HCI.					
-		SM	Silty Sand (41 - 44) Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to 30 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and have no reaction to strong reaction to HCI.					
45-		SW-SM	Well-Graded Sand with Silt and Gravel (44 - 50) Dry to slightly moist, dense, no odor. Primarily coarse to fine sand with ~20% gravel to 70 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and have a weak to strong reaction to HCl.					
50-		SM	Silty Sand with Gravel (50 - 52) Dry to slightly moist, dense, no odor. Primarily medium to fine sand with ~20% gravel to 70 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, and have a weak to strong reaction to HCI.					
		sc	Clayey Sand with Gravel (52 - 58) Dry, dense, no odor. Primarily medium to fine sand					

			Ingion Second Step Hydrogeologic Planework Assessment Ionitoring Well: X Piezometer: Boring/We	II N I	— 	B		Sheet <u>4</u> of <u>17</u>
5011	Boring	[: IVI	fonitoring Well: X Piezometer: Boring/We	II NUI	nbe	r: <u>"</u>	VV-23	Sneet <u></u> or <u></u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
55 — -			The sand and gravel are angular to subangular. The fines have low to medium plasticity with low toughness, and have a weak to strong reaction to HCl.					
-60-		SC	Clayey Sand (58 - 61) Dry, loose to dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and have a weak reaction to HCl.					
-		SC	Clayey Sand (61 - 69) Dry, loose to dense, no odor. Primarily medium to fine sand with ~10% gravel to 25 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and have a weak reaction to HCI.					
65-								
70-		SC	Clayey Sand with Gravel (69 - 75) Dry, dense, no odor. Primarily medium to fine sand with ~15% gravel to 90 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCI.Zone has some large gravel or small cobbles.					

Proj	ect Na	me:Yer	ington Second Step Hydrogeologic Framework Assessment		_		Pro	oject Number:132025
Soil	Boring	;: M	Ionitoring Well: X Piezometer: Boring/We	II Nur	nbe	r: <u>B</u>	/W-23	Sheet <u>5</u> of <u>17</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
75-		GC	Clayey Gravel with Sand (75 - 92) Dry, very dense, no odor. Primarily gravel to 100 mm with ~25% medium to fine grained sand and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCI.Six-inch diameter cobble at 85 feet.					
80-								
85-								
90-	_							

•	ect Na Boring		Ingion Second Step Hydrogeologic Framework Assessment Ionitoring Well: X Piezometer: Boring/We	II Nui	— nbe	r: <u>B</u>		Sheet <u>6</u> of <u>17</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
-	_	SC	Clayey Sand with Gravel (92 - 94) Dry, very dense, no odor. Primarily medium to fine sand with ~25% gravel to 40 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and do not react to HCI.					
95 -		SC	Clayey Sand with Gravel (94 - 97) Dry, dense, no odor. Primarily medium to fine sand with ~20% gravel and cobbles to 90 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCl.					
-		SC	Clayey Sand with Gravel (97 - 100) Dry, very dense, no odor. Primarily medium to fine sand with ~30% gravel to 50 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCl.Zone has some small, highly plastic clay lumps.					
		GC	Clayey Gravel (100 - 117) Dry, very dense, no odor. Primarily gravel to 200 mm and some cobbles up to 6-inch diameter. Also, ~10% medium to fine grained sand and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCI.					
105 -								

Proj	ect Na	me: Yer	ngton Second Step Hydrogeologic Framework Assessment		_		Pr	oject Number:132025
Soil l	Boring:	: M	onitoring Well: X Piezometer: Boring/Wel	l Nur	nbe	r: <u>B</u>	/W-23	Sheet of
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
- - 1115 — -								
-		SC	Clayey Sand with Gravel (117 - 119) Dry, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 30 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCI.					
120-		GM	Silty Gravel with Sand (119 - 121) Dry, very dense, no odor. Primarily gravel to 120 mm with some cobbles, ~30% medium to fine grained sand, and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic to low plasticity and toughness, and do not react to HCl.					
-		SM	Silty Sand (121 - 125) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.					
125 -		SC SC	Clayey Sand with Gravel (125 - 126) Dry, very dense, no odor. Primarily medium to fine sand with ~25% gravel to 30 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and					
-		05 00	toughness, and do not react to HCl.Zone has some highly plastic clay lumps which look tuffaceous.	-				
-		SP-SM SM	Clayey Sand (126 - 127) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 30 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and do not react to HCl. Poorly Creded Sand with Silt (127, 138)					

•			onitoring Well: X Piezometer: Boring/Well		_	D		Sheet _8_ of _17_				
Son	Soil Boring: Monitoring Well: A Piezometer: Boring/Well Number: B/W-23 Sheet 8 of 17											
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks				
130-			Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, and do not react to HCI. Silty Sand (128 - 131)									
-		SC	Dry, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 10 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCl.									
-			Clayey Sand (131 - 140) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCI.									
135 –	_											
-												
140 -		SC	Clayey Sand (140 - 143) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 30 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCI.									
- 145 – -		GM	Silty Gravel with Sand (143 - 148) Dry, very dense, no odor. Primarily gravel to 70 mm with ~25 medium to fine grained sand and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.There are some clay lumps and rocks that look tuffaceous.									
-	_											

Proj	ect Na	ıme: <u>Ye</u> ı	rington Second Step Hydrogeologic Framework Assessment				Proj	ect Number:132025
Soil 1	Boring	g: N	Monitoring Well: X Piezometer: Boring/We	ll Nui	nbe	r: <u>B</u>	/W-23	Sheet <u>9</u> of <u>17</u>
Depth (ft)	Elevation (ft)	S USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
150-		SC	Clayey Sand (148 - 150) Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to 20 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCI.					
-		SM	Silty Sand with Gravel (150 - 153) Dry, dense, no odor. Primarily medium to fine sand with ~15% gravel to 25 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, and do not react to HCI.					
- 155-		SC	Clayey Sand (153 - 156) Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCl.					
-		SM	Silty Sand with Gravel (156 - 162) Dry, dense, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCI.					
160-								
-	-	SM	Silty Sand (162 - 165) Dry, dense, no odor. Primarily medium to fine sand with ~5% gravel to 25 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic to low plasticity and toughness, and do not react to HCl.					
165 -	_	SC	Clayey Sand (165 - 176) Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 25 mm with ~40% silt and clay. The sand and gravel are subangular to subrounded. The fines have moderate to high plasticity, is very tough, and do not react to HCI.Ends with a gravel zone from 175-176 feet.					

Proj	ect Na	ame: Yer	rington Second Step Hydrogeologic Framework Assessment				Pro	oject Number: 132025
Soil l	Boring	g: M	Monitoring Well: X Piezometer: Boring/W	/W-23	Sheet <u>10</u> of <u>17</u>			
Depth (ff)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well	Remarks
- 170 — -								
- 175— -		GC	Clayey Gravel with Sand (176 - 181) Dry, dense, no odor. Primarily gravel to 50 mm with ~35% medium to fine grained sand and ~25% silt and clay. The sand and gravel are subangular to					
- 180 — -		SM	subrounded. The fines are nonplastic to low plasticity, is very tough, and do not react to HCI. Silty Sand (181 - 183) Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to 15 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded.					
-		GM	The fines have low plasticity and toughness, and do not react to HCl. Silty Gravel with Sand (183 - 184) Dry, very dense, no odor. Primarily gravel to 90 mm with some rounded cobbles. Also, ~30% medium to					
185-		SM	fine grained sand and ~20% silt and clay. The gravel is subangular to rounded and the sand is angular to subangular. The fines have low plasticity and toughness, and do not react to HCl. Silty Sand (184 - 185.5)					
_	-	SM	Dry, dense, no odor. Primarily medium to fine sand with ~10% gravel to 30 mm and ~15% silt and clay. The gravel is appular to subangular and the sand is	П				

Proje	ect Na	me: Yer	ington Second Step H	Hydrogeologic Framewo	ork Assessment		_		P	roject Number: _	132025		
Soil I	Boring	: M	Ionitoring Well: X	Piezometer:	Boring/Wel	l Nur	nbe	r:B	W-23	<u> </u>		Sheet 1	1 of 17
Depth (ft)	Elevation (ft)	USCS Group Symbol	N	1aterial Descriptio	n	Sample Name	Sample Location	Lithology	Well Construction	ı	Remarks		
				brounded to rounded. lo not react to HCl.	The fines are								
-			with ~10% grave The fines have a gravel are angula	.5 - 188.5) odor. Primarily mediur el to 20 mm and ~45% el powdery silty texture. er to subangular. The fi ghness, and do not rea	silt and sand. The sand and fines have low								
- 190 — -		SC	Clayey Sand wi Dry, dense, no with ~25% grave The sand and gra fines have low to	th Gravel (188.5 - 192 odor. Primarily mediur I to 30 mm and ~15% avel are angular to sub medium plasticity with to HCI.Plasticity decrea	n to fine sand silt and clay. angular. The low toughness,								
-		SM	Dry, dense, no with ~15% grave The sand and gra The fines are no	Gravel (192 - 194.5) odor. Primarily mediur I to 30 mm and ~15%: avel are subangular to nplastic to low plasticity do not react to HCI.	silt and clay. subrounded.								
195 —		SC	Dry, dense, no with ~15% grave The sand and grave	odor. Primarily mediur el to 30 mm and ~40% savel are angular to sub rate to high plasticity, is to HCl.	n to fine sand silt and clay. angular. The								
-		SM	Silty Sand with Dry, dense, no with ~20% grave	Gravel (196 - 197.5) odor. Primarily mediur I to 30 mm and ~15% avel are angular to sub	silt and clay.								
- 200 — - -		SC	do not react to H Clayey Sand (19 Dry, very dense sand with ~10% clay. The sand a subrounded. The		edium to fine 20% silt and alar to dium plasticity,								
205 —										K			

Proj	ect Na	me: _Yer	ington Second Step Hydrogeologic Framework Assessment		_		Pr	oject Number: <u>132025</u>
Soil 1	Boring	:: M	onitoring Well: X Piezometer: Boring/Well	l Nur	nbe	r:B	W-23	Sheet <u>12</u> of <u>17</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
		_						
-		SM	Boulder (206 - 207.5) Dry, very dense, no odor. Primarily fine sand with ~20% gravel. Zone includes a 12-inch cobble/boulder and ~30% fines The fines are very grey and have the same consistancy as the cobble. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCI.	-				
- 210 <i>-</i> -			Silty Sand with Gravel (207.5 - 210) Dry, dense, no odor. Primarily medium to fine sand with ~20% gravel to 60 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and do not react to HCI.					
-			Boulders (210 - 214) Dry, very dense, no odor. Large boulder zone fines are gray powder from rock. May be one large boulder or may boulders with diameters > 12-inches.					
- 215-		SC	Clayey Sand with Gravel (214 - 215) Dry, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 30 mm and ~20% silt and clay. The sand and gravel are angular to subangular.	_				
-			The fines have low plasticity and toughness, and do not react to HCl. (215 - 217) Dry, very dense, no odor. Large boulder zone fines are gray powder from rock. May be one large boulder or may boulders with diameters > 12-inches.					
-		SC	Clayey Sand with Gravel (217 - 219.5) Dry, very dense, no odor. Primarily medium to fine sand with ~15% gravel to 35 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCl.					
220 - -		GW-GC	Clayey Gravel with Sand (219.5 - 223.5) Dry, very dense, no odor. Primarily gravel to 6-inches with ~20% medium to fine sand and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines have low to medium plasticity and toughness, and do not react to HCl.					
-		SC	Clayey Sand (223.5 - 225) Dry, very dense, no odor. Primarily medium to fine	-				

Proj	ect Na	ame: _Yer	ington Second Step	Hydrogeologic Framewor	rk Assessment				Pr	oject Number: _	132025			
Soil l	Boring	;:[] M	Ionitoring Well: X	Piezometer:	Boring/We	ll Nur	nbei	r: <u>B</u> /	W-23			Sheet _	<u>13</u> o	f <u>17</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	١	Material Description		Sample Name	Sample Location	Lithology	Well		Remarks			
225		SM	subangular to suplasticity and tou Silty Sand with Dry, dense, no with ~15% grave The gravel is an subangular to su low plasticity and	gular to subangular and tubrounded. The fines have ughness, and do not reach Gravel (225 - 228) odor. Primarily medium el to 30 mm and ~15% sil gular to subangular and tubrounded. The fines are d toughness, and do not thin silty clay interbeds.	ve low ct to HCI. to fine sand ilt and clay. the sand is e nonplastic to									
- 230 — -		SC	Dry, dense, no with ~20% grave The gravel is an subangular to su	rith Gravel (228 - 235) odor. Primarily medium el to 30 mm and ~30% sii gular to subangular and t ubrounded. The fines hav ty and toughness, and do	ilt and clay. the sand is ve low to									
- 235— -		GW-GC	Dry, very dense with ~15% medi and clay. The s subangular. The	eravel with Clay and Sar e, no odor. Primarily gravium to fine grained sand vand and gravel are angulae fines have low to mediuand do not react to HCI.	vel to 70 mm with ~35% silt ar to									
- - 240 –														
-			volcanic rock wi	e, no odor. Boulder cons th lithic fragments.	sists of silicous									
1	1	1 00	Clavey Sand (2	43 - 244)			1	11/1	M M					

Proj	ect Na	me: Yeri	ington Second Step Hydrogeologic Framework Assessment				Pr	oject Number:132025
Soil l	Boring	: M	fonitoring Well: $\overline{\mathbf{X}}$ Piezometer: Boring/We	ll Nu	mbe	r: <u>B</u>	/W-23	Sheet <u>14</u> of <u>17</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology	Well Construction	Remarks
245-		SC	Dry, very dense, no odor. Primarily medium to fine sand with ~5% gravel to 15 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, and do not react to HCl. Silty Sand (244 - 246)					
-		GC	Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 10 mm and ~20% silt and clay. The gravel is angular to subangular and the sand is subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCl.					
-		SC	Clayey Gravel with Sand (246 - 247) Dry, very dense, no odor. Primarily gravel to 30 mm with ~25% medium to fine grained sand and ~20% silt and clay. The sand and gravel are angular to subangular. The fines have medium plasticity and toughness, and do not react to HCI.					
- 250 —			Clayey Sand with Gravel (247 - 249) Dry, very dense, no odor. Primarily medium to fine sand with ~20% gravel to 35 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCI.					
-			Boulder (249 - 251.5) Dry, very dense, no odor. Boulder consists of silicous volcanic rock with lithic fragments. Clayey Sand (251.5 - 253)					
-		SC	Dry, very dense, no odor. Primarily medium to fine sand with ~10% gravel to 20 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCl.					
-			Boulders (253 - 255) Dry, very dense, no odor. Boulder consists of silicous volcanic rock with lithic fragments.					
255 — - -		SC	Clayey Sand with Gravel (255 - 256) Dry, very dense, no odor. Primarily medium to fine sand with ~25% gravel to 20 mm and ~25% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity and toughness, and do not react to HCl. Boulders (256 - 263) Dry, very dense, no odor.Boulder consists of silicous volcanic rock with lithic fragments.					
- 260 —								
-						3		

Proje	ect Na	me: _Yer	rington Second Step Hydrogeologic Framework Assessment		_	Pr	oject Number: <u>132025</u>
Soil I	Boring	;: M	Monitoring Well: X Piezometer: Boring/Well	Nur	nbe	r:B/W-23	Sheet <u>15</u> of <u>17</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	Material Description	Sample Name	Sample Location	Lithology Well Construction	Remarks
-		SC	Clayey Sand with Gravel (263 - 264) Dry, very dense, no odor. Primarily medium to fine sand with ~25% gravel to 20 mm and ~25% silt and clay. The sand and gravel are angular to subangular. The fines have low to medium plasticity with low toughness, and do not react to HCI.				
265-			clay. The sand and gravel are angular to subangular. The fines have low to medium plasticity with low toughness, and do not react to HCl. (264 - 268)				
270 — - -							
275— - -							
280-							

				nydrogeologic Framework			_	D.		oject Number: 132023	
Soil I 	Boring:	M	Ionitoring Well: X	Piezometer:	Boring/Well	: <u>B</u> /	B/W-23 Sheet16 of17				
Depth (ff)	Elevation (ft)	USCS Group Symbol	M	laterial Description		Sample Name	Sample Location	Lithology	Well Construction	Remarks	
285											
- 290 — -											
- 295 — - -											
300-											

Proj	ect Na	me: _Yeri	ington Second Step	Hydrogeologic Framework	Assessment		_		Pr	oject Number: 132025	
Soil I	Boring	M	fonitoring Well: X	Piezometer:	Boring/Well	Nun	nber	r: _B/	W-23		Sheet <u>17</u> of <u>17</u>
Depth (ft)	Elevation (ft)	USCS Group Symbol	١	Material Description		Sample Name	Sample Location	Lithology	Well Construction	Remarks	
305 —											
310			Bottom of Boreh	nole at 314 feet below groui	nd surface.						

WELL LOG AND REPORT TO THE STATE ENGINEER OF NEVADA

Log No/	1979	
Recomme	19	
Well No.	W 36	
	25399	
n	a not fill in	***************************************

PLEASE COMPLETE THIS FORM IN ITS ENTIRETY

10.9 40.00 pt:01

2EP 20.04

					not fill in
Owner	THE ANA	CONDA CO	MPANY	Driller THE	ANACONDA COMPANY
Address	Weed He	ighta. N	гинда 89443	Address Weed	Heights, Nev,89443 Lic No.
					Lyon Count
Water will b	e used for.	MILLI	ng, Mining, Domest	1.CTotal dep	th of well300'
Size of drill	ed hole	2	o" þ	Weight of casing pe	r linear foot 18" - 47 155.
Thickness of	casing	1	/4"	Temp. of water	62 ⁰
Diameter an	d length of	casing?	0" to 1781, 18" to 12" in diameter and under	300' . give inside diameter;	nsing 12" in diameter give outside diameter.
					· · · · · · · · · · · · · · · · · · ·
					:
lf flowing w	ell describo	control wor	ks	(Type and also of	valve, etc.)
					of wellApril 15, 1969
					OI WOII
		LOG	OF FORMATIONS		Water-bearing Formation, Casing
From feet	To feet	Thickness feet	Type of 1	material	Perforations, Etc.
0	60	60	Gravel		Chief aquifer (water-bearing formation)
60	300	240	Porphyry		from 60 to 300 ft.
	ı				Other aquifors
				· · · · · · · · · · · · · · · · · · ·	2-3-4-1-1-1-1
					ALLES AND
		,		***	First water at 60 feet.
					Casing perforated
·		,			from100 to300ft.
			· · · · · · · · · · · · · · · · · · ·	,	Size of perforations
					1/4" x 10"

LOG OF FORMATIONS-Continued

From feet	To feet	Thickness			Type of material WW - 36
•					en e
				CASING I	RECORD
Diam. casing	From feet	To feet	Length		"Remarks"—Seals, Grouting, Etc,
20"	0	178	178	15 cu. yd	is. pea gravel around top of casing.
18"	0	300	300 .1	may la	e pulled 20"
	,	·	,		State of the state
······································		G.D.	NERAL INF	ORMATION—Pun	mping Test, Quality of Water, Etc.
					
•					
		dan sa			
	WELL DE	niller's st	ATEMENT		(Not to be filled in by Driller)
This well above inf belief.	l was dril formation i	led under m is true to m	y jurisdiction y best infor	on and the mation and	
SignedWell Driller					
License No					
Dated			19.		
			,		
				1	
			ij		

STATE OF NEVADA

DIVISION OF WATER RESOURCES

WELL DRILLERS REPORT

Please complete this form in its entirety

OFFICE USE ONLY
Log No. 12835
Permit No. Basin Masox Value
Rasin Moson Val.
MADO

owner The									<u> </u>		<i>IVe</i>	/ <u>o</u>
LOCATION	1/4	1/4 5	ec. 16.	T	<u></u>	N/S R	E	*******************************		414	os/	.Coun
	TYPE OF WOR	K.		4.		PROPOSED	USE L	RAIN	/	5.	TYPE W	ÆLL
	~~	econditior ther		1	omestic unicipal	Irrigation Industrial		Test Stock		Cable Other		tary
LITHOLOGIC LOG						8. WELL CONSTRUCTION						
Material		Water Strata	From	То	Thick- ness	Diameter hole.						2 f
Nolcan	····		0	80	80	Casing record Weight per foo						22.4
						Diameter	•••••••		From		To	-
so. Volca	ue Rock			<u> </u>		123/4	inche	es `	9	feetl	638	, f
treaks on	y clay	ļ	80	112	- 32	,	inche					
0 (<i>y o</i>	ļ				********************	inche	s		feet	**********	f
and Cras	g speed					******************************	inche	s		feet		f
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